



Federal Fluminense University

AURORA DE AFONSO COSTA  
NURSING SCHOOL



Summary of theses  
and dissertations



## Content validation of instruments related to knowledge and skill in the use and installation of a nasogastric tube

Rosana Kelly da Silva Medeiros<sup>1</sup>, Marcos Antonio Ferreira Júnior<sup>1</sup>

*1 Federal University of Rio Grande do Norte*

### ABSTRACT

**Aim:** To construct and validate the content of evaluation instruments regarding nursing knowledge and skills in terms of the nasogastric probing procedure. **Method:** Methodological study conducted with 23 nursing teachers of public higher education institutions of Rio Grande do Norte, in the period June to September 2012, applying the Kappa and the Content Validation (CVI) indexes. **Results:** In the questionnaire concerning knowledge, three questions had a perfect concordance index, and nine were considered appropriate with changes. The script structured to assess ability, showed 13 items with a perfect concordance index and 15 as being appropriate with changes. The questionnaire obtained CVI 0.97 and Kappa 0.94 scores; as for the script, CVI 0.95 and Kappa 0.91 scores were achieved. **Conclusion:** The two instruments proved to be valid regarding their content, and are tools that can be used to enhance the quality of nursing care.

**Descriptors:** Nursing; Gastrointestinal Intubation; Validation Studies; Knowledge; Questionnaires.

## INTRODUCTION

Nasogastric probing is a common technique for, among other things, meeting patients' nutritional needs when they are unable to ingest food in sufficient quantity to supply their needs but are able to absorb nutrients<sup>(1)</sup>. In this context, the insertion of a nasogastric tube requires skill preceded by knowledge for its safe execution, because there may be some complications associated with performing this procedure<sup>(2)</sup>. However, the procedures involved in the insertion and placement of the nasogastric tube have been incorporated into nursing practice without sufficient validation studies<sup>(3)</sup>. Therefore, it is necessary to assess the quality of nursing care associated with this procedure by making use of valid measuring instruments, since this technique must have its fundamentals<sup>(3-4)</sup>.

## AIM

To construct and validate the content of evaluation instruments regarding the nursing knowledge and skills involved in the nasogastric probing procedure.

## METHOD

This is a methodological study conducted at the Federal University of Rio Grande do Norte (UFRN) and the State University of Rio Grande do Norte (UERN). The sample consisted of 23 evaluators, selected in terms of the following inclusion criteria: nursing teachers employed by the institutions selected for the study in the disciplines of Semiology and/or Nursing Semiotics, with at least one year experience. The research was developed in three steps: (A) the construction of two instruments based on the li-

terature review which resulted in a questionnaire consisting of 12 questions about the knowledge of the respondents, and a skill observation assessment form consisting of 28 items; (B) the submission of instruments to the evaluators, from June to September 2012. Each respondent would judge each item as being "adequate", "appropriate with changes" or "inappropriate" in addition to making an overall assessment of each instrument based on 10 criteria adapted from Pasquali's methodological framework<sup>(5)</sup>; (C) validation checking the level of agreement among the evaluators, through the application of the Content Validity Index (CVI) and the Kappa index. We used a consensus level of greater than 0.75 for the CVI, and greater than 0.61 (good) for the Kappa. The study was approved by the Research Ethics Committee of the Onofre Lopes University Hospital (CEP/HUOL), with the register ID 3852009.

## RESULTS

Of the 23 evaluators, 87% were female, with a mean age of 36.5 years. 73.9% worked in UFRN, 78.3% had academic Master's degrees and 69.6% worked exclusively in teaching. The average teaching experience time was 7.9 years, and in the disciplines of Semiology and/or Nursing Semiotics it was 5.6 years. In terms of the questionnaire regarding the judgment about the knowledge and observation structured form, no item/subject was considered inappropriate, since all of them achieved an agreement level within the established index (CVI>0.75 and Kappa>0.61). In the questionnaire about knowledge, of the 12 issues, three showed a perfect concordance index and the others were considered appropriate with changes in terms of vocabulary, criteria, clarity, update and accuracy. Regarding the script structured to assess skill, of the 28 items presented,

13 showed a perfect concordance index (CVI = 1.00; Kappa = 1.00) and the other 15 were considered appropriate with changes, especially with regard to the instructional sequence of topics, clarity and vocabulary. Regarding the overall assessment of the instruments, the questionnaire with regard to knowledge obtained an CVI of 0.97 and a Kappa of 0.94; the form with regard to structured skill achieved an CVI of 0.95 and a Kappa of 0.91.

## CONCLUSION

The judgment about the items used in the instruments and the application of statistical tests demonstrate the need for changes in order to achieve a valid and suitable instrument for the measurement of the object for which it was intended. This was the case because, in order to verify the representativeness and extent of each item of the instruments in terms of the studied area, it was possible to get the idea of measurement of knowledge and skills in terms of nasogastric probing as a way of enhancing the quality of nursing care.

This process is presented as an opportunity to instill a greater scientific basis to nursing practice. Therefore, the instruments may be used by training and health institutions to improve professional training and to provide assistance in the field of nursing practice through continuing education of students and professionals.

The limitations are related to the way in which the evaluators were selected, which prevented the inclusion of evaluators from different regions of the country, as well as the need to perform other stages of the research, since it was designed to fulfill some stages of the validation process and required the submission of the instruments for the judges to retest, in addition

to its clinical application, in the search for more accurate and specific indicators.

There is a need for more validation studies with regard to the nasogastric probing procedure, due to its scarcity of research in the nursing area, especially in terms of insertion techniques and confirmation of the placement of nasogastric tubes. The improvement of this knowledge leads to a better quality of nursing care.

## REFERENCES

1. Marshall AP, Cahill NE, Gramlich L, MacDonald G, Alberda C, Heyland DK. Optimizing nutrition in intensive care units: empowering critical care nurses to be effective agents of change. *Am J Crit Care* [internet]. 2012 [cited 2015 Feb 22]; 21(2):186-194. Available from: <http://ajcc.aacn-journals.org/content/21/3/186.short>
2. Malta MA, Carvalho Junior AF, Andreollo NA, Freitas MIP. Medidas antropométricas na introdução da sonda nasogástrica para nutrição enteral empregando a esofagogastroduodenoscopia. *Arq Bras Cir Dig* [internet]. 2013 [cited 2015 Feb 20]; 26(2):107-111. Available from: [http://www.scielo.br/scielo.php?pid=S0102-67202013000200007&script=sci\\_arttext&lng=pt](http://www.scielo.br/scielo.php?pid=S0102-67202013000200007&script=sci_arttext&lng=pt)
3. Leães DM, Mello E, Beghetto M, Assis MCS. Enteral feeding tubes: are insertion techniques and positioning based on anatomical evidence? *Nutrition and Health* [internet]. 2012 [cited 2015 Feb 21]; 21(3):193-200. Available from: <http://nah.sagepub.com/content/early/2012/09/23/0260106012459937.full.pdf+html>
4. Vituri DW, Matsuda LM. Validação de conteúdo de indicadores de qualidade para avaliação do cuidado de enfermagem. *Rev. esc. enferm. USP* [Internet]. 2009 [cited 2013 Aug 18]; 43(2): 429:37. Available from: <http://www.scielo.br/pdf/reeusp/v43n2/a24v43n2.pdf>
5. Pasquali L. Instrumentação psicológica: fundamentos e práticas. 1st ed. Porto Alegre: Artmed, 2010.

**Original reference:** MEDEIROS, R. K. S. Validação de conteúdo de instrumentos sobre conhecimento e habilidade em sondagem nasogástrica. 2013. 118f. Dissertação (Mestrado) – Programa de Pós-Graduação em Enfermagem, Universidade Federal do Rio Grande do Norte, Natal-RN, 2013.

---

All authors participated in the phases of this publication in one or more of the following steps, in According to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the versión submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in [http://www.objnursing.uff.br/normas/DUDE\\_eng\\_13-06-2013.pdf](http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf)

---

Received: 06/14/2015  
Revised: 06/18/2015  
Approved: 06/18/2015