

Abstract 021

Category: Research on nursing diagnosis

TITLE: Classification tree for diagnostic differentiation between two respiratory nursing diagnoses of the NANDA International terminology

AUTHORS: Lemos, L.A., Chaves, D.B.R., Andrade, L.Z.C., Carvalho, O.M.C., Silva, V.M., & Lopes, M.V.O.

Introduction with problem statement:

Inference processes for some nursing diagnoses in specific situations, and in populations such as infants, may become even more complex due to the occurrence of common defining characteristics. This proximity between nursing diagnoses may cause doubts among less experienced evaluators. The classification trees are of great value for clinical practice, with the purpose of optimizing the diagnostic inference process through technology. The aim of this study was to validate clinically a classification tree to differentiate between the NANDA International nursing diagnoses of *ineffective breathing pattern* (IBP – 00032) and *ineffective airway clearance* (IAC - 00031).

Methods:

This methodological study included the development of a classification tree for differentiation between two respiratory nursing diagnoses, with an overall prediction of 86.4%. The clinical validation sample consisted of 222 children with respiratory disorders who were evaluated by nurses divided into two groups, one using and one not using the classification tree.

Results and discussion:

The classification tree validated in the study has 11 nodes, with six terminal nodes. The use of the classification tree demonstrated high sensitivity and specificity for inference of IAC (0.9754 and 0.7209, respectively) and IBP (0.8085 and 0.9934, respectively). The defining characteristic most strongly associated with the presence of the nursing diagnoses in question was *dyspnea*.

Impact on the discipline:

Nurses without clinical experience, or nursing students, may present difficulties in developing rapid and reliable diagnostic reasoning, partly because of the lack of theoretical-practical knowledge, and partly due to the low sensitivity/specificity of most clinical indicators of nursing diagnoses, such as IBP and IAC. Thus, this tool can be useful and effective for directing the diagnostic inference process.

References

1. Herdman TH and Kamitsuru S. (2017) *NANDA International nursing diagnoses: definitions and classification, 2018 -2020*. New York: Thieme.
2. Kuhn L, Page K, Ward J, et al. (2014). The process and utility of classification and regression tree methodology in nursing research. *Journal of Advanced Nursing* 70: 1276–1286.
3. Pascoal LM, Lopes MVO, Silva VM, et al. (2016). Clinical differentiation of respiratory nursing diagnoses among children with acute respiratory infection. *Journal of Pediatric Nursing* 31: 85–91.