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Preview Notes

Analysis of nursing diagnosis "risk of dry eye": a cohort study

Fabiane Rocha Botarelli[1], Ana Paula Nunes de Lima Fernandes[1], Jéssica Naiara de Medeiros Araújo[1], Vanessa Pinheiro Barreto[1], Marcos Antonio Ferreira Júnior[1], Allyne Fortes Vitor[1]

[1]*Federal University of Rio Grande do Norte*

Abstract

Aim: To analyze the NANDA-I nursing diagnosis of "risk of dry eye" in patients in an intensive care unit. **Method**: methodological validation study to be conducted with patients admitted to the intensive care unit at the university hospital of the Federal University of Rio Grande do Norte (UFRN). A cohort study will be undertaken for pool analysis of predictor variables (risk factors) associated with the outcome (dry eye). Inclusion criteria: patient of less than 18 years of age, with a minimum of 24 hours after admission. Exclusion criteria: previous eye disease, transfer, or death during study follow-up. The monitoring will be on a daily basis with a seven day follow-up, with accuracy analyzed through the use of sensitivity and specificity measures and predictive values.

Descriptors: Nursing Diagnosis; Dry Eye Syndromes; Intensive Care Units; Validation Studies.

INTRODUCTION

Faced with the clinical severity of patients admitted to the intensive care unit (ICU), the stabilization of vital organs is prioritized over basic care, such as measures to ensure eye care. Individuals in the ICU are particularly prone to developing abnormalities associated with the ocular surface because of the use of highly complex treatments (mechanical ventilation, sedation, neuromuscular blockers and the use of specific medications) that can cause failure in the ocular defense mechanism including incomplete eyelid closure, decreased blinking reflex and reduced production of tears[1].

These factors expose the ocular surface of patients to consequent tear evaporation and the development of the dry eye syndrome which, if not treated early, culminates in more serious injuries in the cornea, with potential for vision loss[1].

Therefore, the autonomy granted to nursing staff in the systematization of nursing care allows the creation of a responsibility for diagnosing risk situations, and to carry out interventions to prevent and monitor the expected results.

From this point of view, this study aims to undertake a clinical validation of the nursing diagnosis (ND) of the North American Nursing Diagnosis Association International (NANDA-I) "risk of dry eye", within area 11 – "Safety/Protection", which is, by definition, "risk of ocular discomfort or damage to the cornea and conjunctiva due to the reduced quantity or quality of tears to moisturize the eye"[2].

The identification of risk factors in a real clinical situation allows for an accurate diagnosis when it represents the patient's response to a given situation. That said, the relevance of this research is based on the validation of a tool for the early detection of risk of dry eye, which would contribute substantially to the reliability of its use in clinical practice by improving its accuracy and to allow a proper inference in the diagnosis made by nurses.

GOALS

- To analyze the NANDA-I "risk of dry eye" nursing diagnosis in ICU patients;
- To check the incidence of dry eye in ICU patients;
- To evaluate the sensitivity, specificity and predictive value of risk factors associated with this diagnosis for dry eye outcome in this population.

METHOD

Methodological validation study proposed by Lopes Silva, Araujo[3]. To this end, a prospective cohort study with patients admitted to the general ICU of UFRN university hospital will be undertaken. As this is a special group with frequent exposure to the risk factors of interest, we will make use of a single cohort with subsequent classification based on the different levels of exposure to the variables of interest. The sample will be obtained by calculation for an infinite population. The sampling will take the form of convenience sampling. The predictor variables refer to the risk factors described in NANDA-I for "risk of dry eye" ND: aging, autoimmune diseases, environmental factors, female gender, lifestyle, mechanical ventilation therapy, neurological lesions with sensory/reflex/motor impairment and treatment mode. The outcome variable is the dry eye.

As inclusion criteria, patients of 18 years of age or older who are admitted to the ICU for at least 24 hours. Patients with previous diagnosis of eye disease, transferred to other units, and those who died during the follow-up period are to be excluded from the study.

The data collection instrument will cover demographic and clinical data, risk factors described in NANDA-I for the diagnosis in question,

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analysis of the level of ocular exposure in terms of eyelid aperture, exposure of the conjunctiva, sclera and cornea; clinical evidence of dry eye (discomfort, irritation, presence of conjunctival edema, hyperemia and ocular discharge) and the results of the Schirmer test which is considered to be the "gold standard" for measuring the amount of tear film. The assessment will take place daily, with a follow-up period of seven days. After monitoring, we will assess the effect of risk factors on the development of dry eye.

The workers in charge of data collection will be trained in the applicability of the instrument, to ensure consistency in data and to ensure reliability of the associated measures.

Two experts will infer the presence of dry eye in patients according to the criteria of the adopted methodological approach[3].

The descriptive analysis will use simple frequency, mean, median and standard deviation measures. The incidence will be calculated by the number of new cases in a given period and the number of individuals exposed to risk in the same period.

Association measures between the predictor and outcome variables are calculated using the chi-square test and Fisher's exact test in the case of qualitative variables. For the quantitative variables, the Student t-test is used for symmetric samples, and the Wilcoxon-Mann-Whitney test is used for asymmetric samples when comparing the two groups. We will check the symmetry of the sample using the Kolmogorov-Smirnov test. The significance level will be 5%. The measure of association between exposure and outcome will be the relative risk (RR).

The accuracy will be analyzed by sensitivity, specificity, positive and negative predictive values, the positive and negative likelihood ratio, efficiency, the diagnostic odds ratio and the area under the ROC curve.

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