

Euro Nursing 2018: Bedbath in Intensive Care Unit: Implications to nursing care

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The hospital environment aims at care for people with health disorders, who have specific needs. This service is delivered by professionals in various sectors within specific health units. Seriously ill patients need more specialized environments, which can guarantee the preservation of vital organ functioning and maintained clinical stability. In Brazil, two techniques to perform the bedbath are normally used: the traditional bath, using water and soap, and, in smaller scale, the disposable bath. Regardless the technique used, it is necessary to turn the patient from side to side to perform the complete body hygiene, and this is a possible way to modify the patients hemodynamic and ventilation, besides increasing the energetic metabolism and glucose consumption. When we analyze special populations, like cardiological and oncological patients, it is possible to notice that despite the mobilizations, there is no substantial effect on the hemodynamic state, as we can see in some studies developed by our research group. More recently, it was demonstrated that this procedure can reduce blood glucose analyzed by the arterial blood before and after the bath. These data are crucial for nursing care, supporting decision-making and patient evaluation during the procedure, rendering a safer nursing care.

Introduction

The hospital environment aims at care for people with health disorders, who have specific needs. This service is delivered by professionals in various sectors within specific health units. Seriously ill patients need more specialized environments, which can guarantee the preservation of vital organ functioning and maintained clinical stability.

Intensive Care Units (ICUs) are sectors that have special equipment and trained people to attend to the needs of seriously ill or risk patients who require uninterrupted medical and nursing care¹. Besides these resources, there are standards relating to the physical environment that have to be met to ensure appropriate care for these people. Regarding environmental temperature, Brazilian legislation demands that temperature be controlled between 21 and 24°C, with relative humidity between 40 and 60%. It is also important to note that an ICU is not restricted to the provision of life-support services, and that patients' needs for comfort and welfare should be prioritized.

In daily nursing care, however, some techniques are clearly relegated to the background. The explanation may be the fact that various professionals consider them less important; and thus delegate them to other team members. These techniques

include the bed bath, a practice that involves complex expertise and that, if held in inappropriate conditions, may cause variations in patients' clinical state, whose implications can cause instability and risks to the patients.

In a review of scientific literature, it was observed that bed bathing is a matter of controversy among nurses. In a study on nursing aspects professionals recovered in health care, the aspect professionals most important was the bath, mentioned by 79.5% of the 88 participants in the study. However, in another study with 32 nurses in Rio de Janeiro (Brazil), which sought the meaning of the art of bed bath for nurses, statements that characterized the bath as an exhausting, manual and routine work were expressed, strengthening the idea of a non-prestigious procedure.

In the context of critical patients, any changes that may act directly or indirectly on the patient, even if small, can cause instability and worsening of the general state, since the act of turning upwards during the full bed bath, in combination with nursing interventions, may increase the body's oxygen demand. Moreover, it has been suggested that the tremors caused by the variation in water temperature cause variations in venous mixed oxygen saturation (SvO₂), leading to a greater energy need. Despite the lack of a standardized guideline for bed baths to critical patients, a recent systematic review demonstrated that these patients seem to benefit from some actions: avoid the bath within less than 4 h after cardiac surgery; try to be brief when positioning the patient in lateral decubitus; complete the bath within 20 minutes. Therefore, efficient planning of the procedure is needed, considering duration, water temperature and changes in the patient's position.

Thus, the purpose of this study, carried out at the ICU of a university hospital, was to confirm the following assumption regarding the bed bath, an essential nursing technique: controlling water temperature is more effective than not controlling the temperature during the bed bath by the nursing staff in order to reduce the average change in tissue oxygenation, measured by a pulse oximeter, in critical patients.

Objectives

The aims of the study were to measure the average change in tissue oxygenation through the pulse oximeter during the bed bath of critical patients, with and without the control of water temperature; to compare this change in tissue oxygenation; to evaluate the effects of water temperature on the bed bath of critically ill patients.

Method

Participant, quasi-experimental, before-and-after study in which the quantitative approach of biophysiological measures was used, represented by oxygen saturation through the pulse oximeter (SpO₂) measure, recorded in three blocks: before, during and after the bed bath of critical patients hospitalized at the ICU of a university hospital in Brazil.

A convenience sample of critical patients was recruited, set at 30 individuals through a sample size calculation. Patients were selected through the following eligibility criteria: patients of both sexes, aged over 18 years, admitted to the ICU, which were in monitoring of oxygen saturation by a pulse oximeter, classified as level II in the Therapeutic Interventions Score System-28 (TISS-28) and whose family agreed to sign the Informed Consent. TISS-28 is a pioneer system to classify patient severity and the nursing workload, created by Cullen in 1974.

In compliance with Resolution 196/96 by the Brazilian National Health Council, this study was submitted to a Research Ethics Committee for evaluation and approved under process number 0148.258.000-07. This Resolution contemplates all ethical standards set forth in the Helsinki Declaration of 1975. An Informed Consent Term was elaborated with data to identify the patient, identification of those responsible for the work, the research aims, the procedures for participating and the benefits that can be obtained.

To carry out this study, besides the material needed for the bed bath, an ICEL HT-208® thermo-hygrometer and its own thermometer unit were used, which permits checking the water, verifying environmental temperature, relative humidity and water temperature; water temperature was maintained through a Logen Scientific® Hot Plate, lent from the Analytical Chemistry Department of a federal university.

One of the researchers collected all data through observation and recording of variations in SpO₂ and water temperature. These data were recorded every two minutes in a form containing: patient identification data, total TISS-28 score,

water temperature, environmental temperature and relative humidity before, during and after the bed bath. In line with a thesis, the periods before and after the bath were set at 15 minutes before and after the procedure, respectively. Water temperature was measured and recorded from the beginning of the bath until the end of the procedure.

To maintain uniformity in collected measures, the pulse oximeter was placed on the index finger of the right hand of all selected patients. A glove was used on this hand to avoid interference from illumination in the ideal functioning of the oximeter, and to prevent its contact with water, which could damage it. Each patient was submitted to a control bath, carried out in normal conditions, and experimental bath, in with the water temperature was kept constant and heated to 40°C. The collected information was included in a spread sheet for statistical analysis.

It is important to assure that the measurement and selection risks were minimized so as not to interfere in the study result. The former was controlled by using the same instrument in the two measurements performed on each patient; the second was avoided through the use of a before and after research design.

Descriptive statistics included: media, median, variance, standard deviation and variation coefficient, Pearson's coefficient and percentage difference.

Statistical inference included a parametric test of hypotheses. The test chosen was student's t-test, appropriate to compare paired samples of equal variances. To carry out this test, the statistical package NCSS / PASS 2000 Dawson Edition was used, which permits one- and two-tailed testing, according to the alternative hypothesis formulated. The confidence interval used was set at 95%, and the level of significance (α) was previously fixed at 0.05.