



Caring for the person in critical situation with impaired neurological status

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General Note



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ABSTRACT

Introduction: It is scientifically relevant that nurses who provide care to people in critical situations with impaired neurological status adopt preventive interventions of intracranial hypertension, which promote oxygenation and cerebral perfusion and consequently encourage a better neurological outcome. *Objective:* The best practice guidelines for nursing care established, was aimed at improving the quality and uniformity of nursing interventions in caring for the person in critical situations, in practice environments where patients with impaired neurological status, as the operating room (OR), the Intensive Care Medicine (ICM) and the Emergency Room (ER), predominate. *Materials and methods:* In order to enrich, adapt and validate the theoretical synthesis of their guide, this one was submitted to the appreciation of a panel of 15 nurses who were experts in Medical-Surgical Nursing. *Conclusion:* The guide

is a pertinent support to the decision of nursing prescription, which is a promoter of the best neurological outcome of the person in critical situations with impaired neurological status.

Keywords: Nursing care, Impaired Neurological Status, Guide to good practices.

1. INTRODUCTION

Caring for the person in a critical situation encouraged the development of the project of good nursing practices, encouraging the continuous improvement of the quality of nursing care provided to the person in critical situations with impaired neurological status in the context of OR, ICM and ER, of the Health Service of the Autonomous Region of Madeira (SESARAM E.P.E.).

The standardization of nursing care in services where patients with impaired neurological status predominate is an effective strategy for achieving high levels of quality of care. However, a measure that requires providing nurses with the capacity and knowledge necessary to provide early, adequate and efficient nursing care, optimizing outcomes and preventing complications to the affected patient with impaired neurological status.

The most appropriate strategy to standardize nursing interventions in this area was to use the construction of a guide of good care practices, guided by the main scientific evidence in this area. The focus on the efficiency of a protocol of nursing interventions, or a guide of good practices, as we call it, based on the best clinical evidence, is a primary and determinant factor for the control of Intracranial Pressure (ICP) and patient recovery, to be strongly associated with better prognosis and guarantee of survival of these patients with lower mortality and morbidity rates (Oki e Cruz, 2013).

Developed according to the recommendations of the Nursing Council (NC), the guide was later validated by a panel of nurses' specialists in Medical-Surgical Nursing during their care practice in OR, ICM and ER.

2. THEORETICAL REFERENCE

Understanding the impaired neurological status

All neurological injuries may have overwhelming consequences. Definitive neurological lesion of the brain tissue with permanent sequela may occur at primary injury, but the risk of additional neurological injury (secondary brain injury) due to changes in intracranial dynamics, is high and depends mainly on intracranial hypertension (HIC) and several potentially harmful factors.

Many clinical changes may affect brain and brain dynamics, and therefore increase primary brain injury. Many of these changes can be prevented or treated early, increasing the opportunity for neurological recovery. It is in this sequence that resides the importance of knowledge of physiology, monitoring neurological status and its consequent effective interventions.

The person with acute brain injury may develop from dysfunction to neurological and organic failure. In view of this critical situation, permanent surveillance and immediate intervention are vital.

In this same order of ideas, neurocritical patients require thorough care (neurological outcome depends on thorough care). Early anticipation is a fundamental measure and should guide the attitude of health professionals involved in treatment. Health professionals should anticipate and institute preventive measures, as well as maintain constant monitoring for the diagnosis of the most likely complications [Associação de Medicina Intensiva Brasileira (AMIB), 2008].

The critical patient's problem with neurological dysfunction can be understood by using the International Classification for Nursing Practice (ICNP), which provides us with a standardization of terms and concepts to interpret the condition of patients with brain injury with or without neurological dysfunction. The term neurological status effectively refers to the neurological condition of the patient, therefore constituting a focus of the nurse's attention.

In this sense, the focus of attention on neurological status is compromised in all patients with brain injury. Consequently, during the intervention project, this was the focus of attention used, since we understand that it covers all nursing interventions that are adequate and essential to the care of patients with acute brain injury. In this sequence of ideas, the diagnosis of impaired neurological status is applied to a patient with acute brain injury or with risk of neurological dysfunction, which, due to the pathophysiology of the lesion and brain dynamics, presents risk of HIC and cerebral hypoperfusion.

The bibliography describes that basic care is available to neurological patients, which is fundamental to their treatment, basic care that starts in the emergency room until intensive care (AMIB e Society of Critical Care Medicine, 2008). However, it seems prudent to adopt the described basic care at the place where the patient is, at the time when the nurse identifies the change in neurological status, and this location may be any room outside the emergency room or highly differentiated environment as intensive care.

Guidance for good nursing practice

The consultation of guidelines for good care practice allows nurses to help in their decision making, in a certain area or domain, making their care practice safer and with better quality.

In Nursing, the elaborations of guidelines for good care practice are very current and are considered quality instruments not only in the health area. It is in this way that nurses should support their professional activities in best practices, making the care that they provide safer, visible and effective [Ordem dos enfermeiros (OE), 2007].

In this sequence, clinical guidelines, treatment and intervention care protocol have advantages in the sense that they guarantee safe practice; Improve the consistency of care in different contexts; Increase the possibility of adequate care; they produce parity of knowledge among professionals; they bring the expert's opinion to clinical practice, filter the knowledge related to the particular clinical conditions in an applicable guide for health professionals, and leave room for the development of local protocols (Pearson e Craig, 2004).

The design of the guidance guide for the good practice of nursing care was to help the complex decision-making, that is the approach to the person in a critical situation with neurological status compromised in the context of OR, ICM and ER.

To optimize the standardization of nursing interventions to the person in critical situations with impaired neurological status in these services, we chose to request the collaboration of nurses from their services to elaborate the most significant statements to the care for the person in critical situations with impaired neurological status.

Advocating that good practices comes not only from the application of guidelines based on results of systematic studies, scientific sources and the opinion of recognized experts, with the aim of obtaining satisfactory responses from clients and professionals in the resolution of specific health problems (OE, 2007). We consider it appropriate to enrich the guidance guide with the scientific, technical and human competence of the specialist nurses of the services already mentioned.

The guide of good practices of nursing care to the person in a critical situation with neurological status is organized in three essential points: substantiation, plan of health care and performance algorithm.

For the substantiation of the nursing interventions that are essential in the approach to the person in critical situations with impaired neurological status, we refer to international organizations such as: the American College of Surgeons with the consultation of the manual *Advanced Trauma Life Support*; Association of Brazilian Intensive Medicine in consultation with the manual of the Course of Immersion in Neurological Intensive Care; Critical Care Medicine Society in consulting *the Critical Care Support Manual*; Neurocritical Care Society in consultation with *the manual Emergency Neurological Life Support*; as well as the scientific evidence consulted from electronic databases: EBSCO, SciELO, B-on, Pubmed, Academic Google and Open Access Scientific Repository of Portugal; And protocols of the Neurocritical Intensive Care Unit of Hospital de São João.

To implement the standard care plan, as to standardize the intervention before the Nursing diagnosis impaired neurological status, the selection of nursing interventions recommended by clinical evidence was used. The nursing interventions selected and presented in Figure 1 have the main objectives of reducing intracranial pressure, promoting cerebral perfusion and oxygenation, reducing brain metabolism and finally optimizing the patient's neurological outcome.

Nursing Diagnosis: Impaired Neurological status	
Nursing interventions	Evaluate neurological status
	Assess consciousness
	Evaluate muscle strength
	Evaluate pupillary reflex
	Assess intracranial pressure
	Optimize blood pressure
	Optimize tissue perfusion in the brain
	Prevent pain
	Prevent agitation
	Monitor respiratory status
	Prevent hypoxia
	Prevent hypercapnia
	Prevent hypocapnia
	Aspirate secretions
Nursing interventions	Monitor cardiovascular status
	Optimize volume of liquids
	Control body temperature
	Control of environmental entity
	Prevent hypoglycemia
	Prevent hyperglycemia
	Optimize positioning
	Raise the head
	Prevent constipation
	Evaluate urine
	Prevent hyponatremia
	Prevent hypernatremia
	Administer medication
	Watch for seizures
Nursing Result: Effective neurological status	

Figure 1 Care plan

The algorithms in turn, are graphical representations of the flowchart genre, of decision-making about the clinical options to be adopted, stressing key points and emphasizing the important information summarized to lead to the professional's performance (OE, 2007). In figure 2, there is the performance algorithm for the HIC prevention and control process.

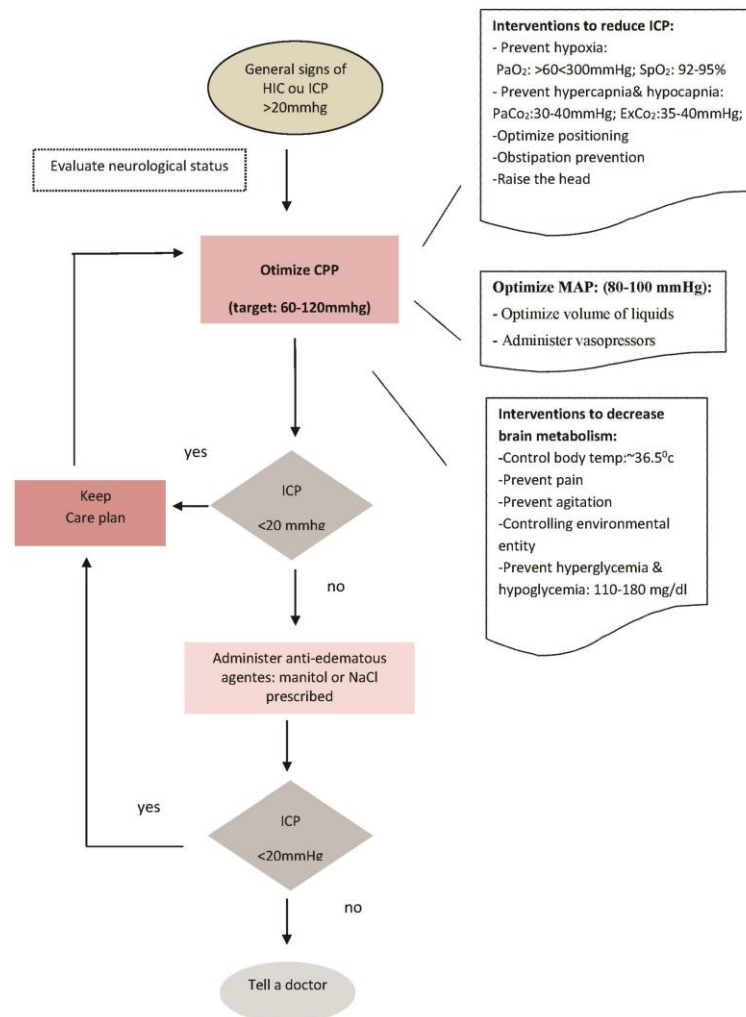


Figure 2 Performance Algorithm

3. MATERIALS AND METHODS

The methodology used involved two stages according to the nature of the project that we intended to establish. Firstly, the theoretical framework of the guidance guide for nursing care was carried out, based on the practicing built upon evidence and, in a second phase, validation by an expert panel, specially constituted for this purpose.

Figure 3, shows the field works developed, allowing a sequential view of all the stages of the work developed.

4. RESULTS

The main data obtained with this intervention project is the result of the evaluation of the relevance and adequacy of the guidance guide in the environment of OR, ICM and ER, which allowed the validation of the guidance guide.

Regarding the standard care plan, the panel of experts considered all nursing interventions pertinent or very pertinent. Considering the interventions: to evaluate pupil reflex, to evaluate muscle strength, to optimize blood pressure, to prevent pain, to prevent hypoxia, to prevent hyperglycemia and to raise the head were considered very pertinent by all the experts. It should be noted that 6.7% of those questioned considered only the following interventions relevant: to assess consciousness, to evaluate ICP and to optimize tissue perfusion in the brain.

As for the performance algorithm we see that all the experts consider it very pertinent.

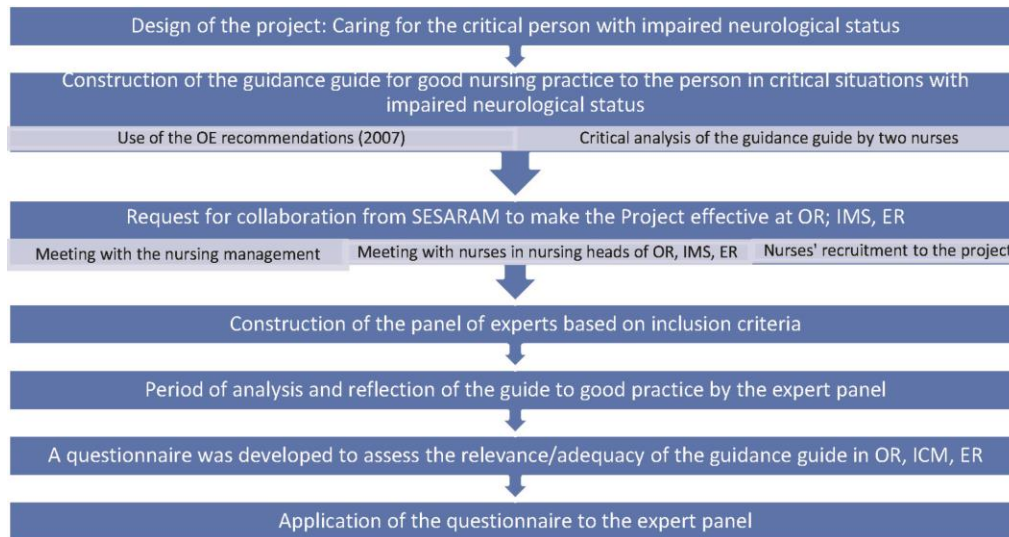


Figure 3 Field work

5. DISCUSSION

Regarding the characterization of the experts, we emphasize that more than half of the population has a Master's degree in Medical-Surgical Nursing, which represents an added value for the service where they provide care, for the institution and for the patient.

The specialist nurse in Medical-Surgical Nursing, with a special focus on the person in critical situations and with profound knowledge in the specific domain of the patient with impaired neurological status, is identified as a key element in the Nursing team, plays a central role in the management of complex care for the patient, assists in decision making, issues judgments and resolves complex questions about the patient with impaired neurological status in critical situations.

Concerning the different domains of the guidance guide, namely the performance algorithm, all elements of the panel considered it a tool to assist in the management of nursing care for patients with HIC.

Similarly, for the standard care plan, most of them were considered very relevant. Nursing interventions: to assess consciousness, monitor pupillary reflex, evaluate muscle strength, evaluate ICP, optimize blood pressure and optimize perfusion of tissues in the brain, considered by us as fundamental in providing care to this patient and as such considered only of very pertinent importance, did not achieve consensus. We should emphasize that the assessment of the relevance of these interventions was not unanimous among the experts, since the interventions: to assess consciousness, to evaluate ICP, to optimize tissue perfusion in the brain were evaluated very pertinent by 93.3% of the population. This aspect, due to the high importance that these interventions have in the care of patients with impaired neurological status, lacks reflection and formative intervention, since quality care is supported care in the best clinical evidence.

6. CONCLUSION

We believe that the guidance guide will be an added value in the services: OR, ICM and ER, allowing through consultation of their different domains, systematization in the elaboration of care plans, rapid clinical decision-making through visualization of the performance algorithm, optimization of the patient's physiological state, as well as in the understanding of the patient's complexity through general principles, through the consultation of the necessary clinical equipment.

We believe that, in this way, the standardization of nursing interventions to patients with impaired neurological status in critical situations and subsequent improvement of the quality of nursing care is a reality.

The technical-scientific and organizational work that involved the elaboration of this guidance guide mobilized and stimulated qualitative changes that will make a difference in caring for the critical person with impaired neurological status.

Conflict of interest

This work is free of conflicts of interest; financial support is exclusive to the authors.

Ethical approval

In this work, all the ethical principles for the investigation were respected. It has authorization from the Nursing Direction of the Health Service of the Autonomous Region of Madeira (SESARAM E.P.E.).

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