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RISK FACTORS FOR THE OCCURRENCE OF DELIRIUM IN CRITICAL PATIENTS: NURSES' CONCEPTION

FACTORES DE RIESGO DE OCURRENCIA DEL DELIRIO EN PACIENTES CRÍTICOS: CONCEPCIÓN DE ENFERMERAS

FATORES DE RISCO PARA OCORRÊNCIA DE DELIRIUM EM PACIENTES CRÍTICOS: CONCEPÇÃO DAS ENFERMEIRAS

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Abstract
Introduction: Delirium is an acute brain dysfunction frequently observed in patients admitted to the intensive care unit (ICU), characterized by transient and fluctuating alterations in consciousness and cognition. **Objective**: To understand nurses' conceptions about knowledge of the risk factors that trigger delirium in ICU patients. **Method**: This is an exploratory-descriptive study with a qualitative approach, carried out in 05 ICUs of a large public hospital in the state of Bahia. 18 nurses were interviewed. Data treated according to Bardin's thematic content analysis. **Results**: The risk factors for the occurrence of delirium in the ICU, according to the nurses' conceptions, were represented by the following categories Therapeutic interventions that promote delirium; Environmental factors involving delirium in an intensive care unit; Age: an important condition that can lead to delirium. **Conclusion**: The nurses' understanding of the risk factors for the development of delirium is of fundamental importance for the planning and implementation of qualified care.

Keywords: Delirium; Critical Care; Intensive Care Units; Nursing Care.

Resumen
Introducción: el delírium es una disfunción cerebral aguda observada con frecuencia en pacientes ingresados en la unidad de cuidados intensivos (UCI), caracterizado por alteraciones transitorias y fluctuantes en la conciencia y la cognición. **Objetivo:** comprender las concepciones de las enfermeras sobre el conocimiento de los factores de riesgo desencadenantes del delírium en pacientes de UCI. **Método:** se trata de un estudio exploratorio-descriptivo con enfoque cualitativo, realizado en 05 UCIs de un hospital público de gran tamaño del estado de Bahía. Se entrevistaron a 18 enfermeras. Datos tratados según el análisis de contenido temático de Bardin. **Resultados:** los factores de riesgo para la ocurrencia del delírium en la UCI, según las concepciones de las enfermeras, estuvieron representados por las siguientes categorías: Intervenciones terapéuticas que favorecen el delírium; Factores ambientales que involucran el delírium en una unidad de cuidados intensivos; Edad: una condición importante que puede conducir al delírium. **Conclusión:** la comprensión de las enfermeras sobre los factores de riesgo para el desarrollo del delírium es de fundamental importancia para la planificación y la implementación de una atención calificada.

Palabras clave: Delirío; Cuidados Críticos; Unidades de Cuidados Intensivos; Atención de Enfermería.

Resumo
Introdução: o delirium é uma disfunção cerebral aguda frequentemente observada em pacientes internados em Unidade de Terapia Intensiva (UTI), caracterizado por alterações transitórias e flutuantes da consciência e cognição. **Objetivo**: compreender as concepções das enfermeiras sobre o conhecimento dos fatores de risco que desencadeiam o delirium em pacientes internados em UTI. **Método**: trata-se de um estudo do tipo exploratório-descritivo com abordagem qualitativa, realizado em 5 UTIs de um hospital público de grande porte, do estado da Bahia. Entrevistaram-se 18 enfermeiras. Trataram-se os dados conforme a análise de conteúdo temática de Bardin. **Resultados**: os fatores de risco para a ocorrência de delirium na UTI conforme concepções das enfermeiras foram representados pelas seguintes categorias: Intervenções terapêuticas que propiciam o delirium; Fatores ambientais envolvendo o delirium em unidade de terapia intensiva; Idade: uma importante condição que pode levar ao delirium. **Conclusão**: a compreensão das enfermeiras sobre os fatores de risco para o desenvolvimento do delirium é de fundamental importância para o planejamento e implementação de uma assistência qualificada.

Palavras-chave: Delirium; Cuidados Críticos; Unidades de Terapia Intensiva; Cuidados de Enfermagem.

INTRODUCTION

Delirium is an acute brain dysfunction frequently observed in patients admitted to the Intensive Care Unit (ICU) characterized by transient and fluctuating alterations in consciousness and cognition[1] and prevalent in approximately 70% of cases, with a maximum incidence of 89%[2]. Another study points out that the prevalence of this event can vary between 32.3% and 77% and the incidence between 45% and 87%[1].

Risk factors for delirium can be classified into predisposing factors and precipitating factors. Predisposing factors represent the characteristics of patients or their comorbidities, such as age, dementia and reduced mobility. They represent the patient's vulnerability to delirium and are generally not modifiable[3].

The precipitating factors are related to acute diseases, their treatment, or the environment in which the patient is found. These factors represent insults and are modifiable, including, among others, dehydration, sleep deprivation, benzodiazepine infusions or use of cholinergic drugs[3].

The development of delirium can prolong the length of hospital stay, impair cognition and increase the possibility of adverse events, being also a predictor of respiratory and neurological complications, thus increasing mortality[4]. The treatment of choice for delirium is non-pharmacological, through early patient mobilization, closeness to family members, preservation of the sleep-wake cycle, time-space reorientation and visual aids that contribute to orientation such as clocks, calendars, personal elements, and family members of the patient[5].

Nurses in the ICU provide uninterrupted care to critically ill patients, making it possible to perceive the behavioral changes presented by them during hospitalization. Therefore, knowing the factors related to the occurrence of delirium for early identification are important and necessary. instruments validated worldwide such as the Confusion Assessment Method for Intensive Care Unit (CAM-ICU) are used to this end[6,7].

The clinical profile of patients admitted to the ICU associated with the complexity of the care provided for health rehabilitation implies the constant work of nurses at the bedside. This proximity contributes to the early identification of factors that can lead to the development of delirium and to intervene when possible.

Thus, in their work process, nurses assume an important role in the prevention of delirium because there are strategies to prevent the occurrence and duration of the illness, as they are closely directed to the care provided during the development of care at the bedside to critically ill patients[6,8].

During the practice of nursing residency, working in the ICUs of a large hospital in the state of Bahia, it was possible to observe that there was no systematic assessment by clinical nurses to identify factors that lead to the development of delirium.

Thus, by understanding the importance of preventing this condition, as delirium directly involves the recovery of a patient's health, increases the risk of morbidity, mortality and length of hospital stay and, consequently, length of stay in the ICU, it is necessary to understand the nurses' conceptions of knowledge on risk factors that trigger delirium in ICU patients.

Given the above, the following problem of this study emerged: what are the conceptions of nurses about the risk factors that trigger delirium in ICU patients? The objective of this research was to understand the conceptions of nurses about the knowledge of the risk factors that trigger delirium in ICU patients.

METHOD

This is an exploratory-descriptive study with a qualitative approach carried out in 5 ICUs of a large public hospital located in the city of Salvador - BA in 2018, with 18 clinical nurses from the respective sectors.

As this is a study involving human beings, the Guidelines of the National Health Council in the Resolution 466/2012 were respected. The study was previously submitted to the Research Ethics Committee (REC) and approved according to Opinion 2.776.494. The field research began after approval by the REC.

The sample was defined by convenience and consisted of nurses working in the ICUs of the aforementioned hospital during the study period. The inclusion criterion was to work in care for at least six months and the exclusion criterion was nurses who were on leave because they were on vacation and/ or license.

The participants were given information about the objective and justification of the research and received the Informed Consent Form (ICF), making it clear their freedom to participate and/or withdraw at any stage of the research without any kind of harm, and explaining the instrument that would be used in data collection.

The anonymity of the participants was guaranteed through the use of a code to represent them. These were named in the study by the letter N (NURSE), followed by sequential numbers, for example, N1, N2, N3.

To characterize the participants, data on identification and academic background, specialization and length of service in the ICU were collected.

The interview took place in a quiet environment, from August to December 2018. A form with questions on the topic was used. The form was completed by the researcher at the moment of the interview. The participants gave their answers and the researcher transcribed them in full. The number of interviews was defined based on the moment when the answers began to be repeated, according to the data saturation technique.

The thematic content analysis method proposed by Bardin[9] was used to analyze the interviews. In the first stage, the pre-analysis, a quick reading was made, which involves initially knowing the material and familiarizing with it. In the second stage, the documents to make up the corpus of the content analysis were chosen. In the third stage, the categorization was carried out, classifying the elements according to their similarities and differences, with subsequent regrouping according to common characteristics.

RESULTS AND DISCUSSION

The study participants were mostly female, 14 (77.8%), the rest were male, 4 (22.2%). Most (14) were aged between 26 and 36 years and only 4 were over 37 years. The time since graduation ranged from 1 to 34 years, and the length of experience in the ICU ranged from 6 months to 22 years. Most professionals (13) had a graduate degree in intensive care; of these, 7 were specialization in the form of residency. One participant was attending a specialization course in intensive care and another in oncology, four completed other specialties, such as Residency in Elderly Health Care (1), Hemodynamic Cardiology (1), and Occupational Nursing (1).

The following categories emerged from the content analysis: Therapeutic interventions that promote the development of delirium; Environmental factors involving delirium in an intensive care unit; Age: an important condition that can lead to delirium.

- Therapeutic interventions that promote the development of delirium

Professionals in this study mostly reported three or more risk factors for the occurrence of delirium, especially those related to precipitating factors, such as mechanical ventilation (MV), as shown in the excerpts below:

> “Patients on mechanical ventilation, often submitted to intermittent sedation, may fluctuate as to their level of consciousness and, therefore, develop a state of agitation...” (N8)

> "The prolonged use of sedation is a factor that leads to an increase in the time of mechanical ventilation and, consequently, in the length of hospital stay." (N17)

Some authors also identified that duration of MV was the strongest independent predictor for both delirium and higher mortality. Furthermore, the data showed that delirium was associated with significant increases in length of ICU and hospital stay[4,10].

There is an idea defended by authors that, due to the severity of the disease in patients with delirium, there is a need for a longer duration of MV in order to treat the cause of the respiratory failure that led these patients to be intubated[11]. In fact, MV is of paramount importance when the patient is no longer able to maintain good oxygenation or protect the airways; however prolonged time using the ventilatory device can lead to delirium.

Sedatives are used to provide comfort, reduce stress and anxiety in mechanically ventilated patients. However, it is recommended that sedatives be used with discretion, following protocols recommended for critically ill patients, such as daily suspension. Thus, the participants of this study considered the use of medication and/or sedatives as an aggravating factor for delirium, according to the following excerpts:

> "Psychotropic drugs can cause the disorientation that can lead to delirium." (N4)
>
> "Medications (such as, benzodiazepines) some medications trigger delirium." (N18)
>
> "The indiscriminate use of benzodiazepines, without proper evaluation and without considering the symptoms of delirium." (N17)
>
> "The prolonged use of sedatives that generates significant cognitive changes after weaning." (N15)

The goal of sedation is to help the patient to become cooperative, calm, and minimally anxious, with appropriate sleep and free from pain. Excessive sedation depresses the cardiorespiratory function, decreases bowel motility, increases the risk of ventilator-related pneumonia, and exposes the patient to hemodynamic instability, increased morbidity and the occurrence of delirium. Sedative agents and opioids, widely used in the ICU, represent an important subgroup of medications known to cause delirium[12].

Regarding the use of sedatives and analgesics, authors revealed that the use of midazolam, morphine and propofol constituted risk factors for the development of delirium. The association between the use of sedative analgesics and delirium is significant. The most used analgesics were fentanyl (43.3%), midazolam (36.9%), propofol (14%), and clonidine (12.7%)[2,5].

In another study[11], patients who received fentanyl had a ten-fold higher risk of developing cognitive impairment and the use of lorazepan was associated with a higher risk of delirium. The prophylactic use of haloperidol in patients at high risk for this syndrome can reduce complications.

It is ratified that, in relation to sedation, the use of drugs associated with the development of delirium, such as benzodiazepines (midazolam and lorazepam), should be avoided. Drugs that are associated with a reduction in the prevalence of delirium, such as alpha2-agonists (e.g. dexmedetomidine) should be considered an option[1,5].

- Environmental factors involving delirium in an intensive care unit

The intensive care environment is characterized by being a place that has technology for monitoring and treating unstable patients. Some aspects, such as the number of devices, too much light and the dynamism of the team that works uninterruptedly end up generating excessive noise, causing discomfort and/or sleep deprivation, as perceived by the participants in this study:

> "Alarms, noises, repeated sounds in the brain system, noise made by the team - cognitive disturbance, noise from the team - cognitive disturbance." (N3)

> “Sleep deprivation is a stressful factor that can lead to important organic dysfunctions. Alarms, infusion pumps and intermittent lighting can lead to sleep deprivation.” (N17)

Sleep deprivation is one of the factors that prompts the onset of delirium and is a result of excessive noise in the ICU, where sleep is interrupted by various environmental and noise factors. A study on the implementation of a bundle of non-pharmacological interventions consisting of reduced ambient noise and projected light at night was associated with improved sleep and reduced incidence of delirium in patients admitted to the ICU[13].

In the ICU, several factors are related to sleep deprivation in critically ill patients. In addition to environmental factors, such as noise, light and care activities, there are intrinsic factors related to the patients and their acute illness and/or insult, as well as those related to the ongoing treatment, such as ventilatory support and drug therapy[14].

Furthermore, in the ICU environment, sleep disturbances overlap, including medications such as benzodiazepines, which decrease slow-wave sleep, leading to severe sleep fragmentation. Thus, it is very likely that delirium is also precipitated by sleep deprivation[15].

It is essential to give importance to sleep and to promote a calm environment at night, with dimmed lights, to provide effective sleep. When there is no care for the environment, ICU patients tend to have lower sleep quality, with fragmentation and other disorders[16].

The nature of the complexity of an ICU contributes to impairing patients' sleep, as reported by participants in this study and other research published in the area. However, it is part of the nursing work process to create strategies to minimize these disturbing conditions and improve the ambience of this place.

Another aspect highlighted by the participants in this study is confinement, as the critical patients do not have the presence of a companion during the 24 hours of the day. There are some ICUs that have already implemented extended visits to minimize the appearance of delirium caused by isolation, as reported below:

> "A closed environment, enclosure of the patient without contact with the external environment. No orientation as to the moment of the day, if it is day or night." (N3)
>
> "The confinement can trigger delirium, as it is in an unusual environment, where the patient is not familiar with most of the people he sees there." (N10)
>
> "In the intensive care environment, it is well known that delirium is related to confinement." (N12)
>
> "Confinement produces disorientation in time and space, visual hallucinations, agitation in bed." (N13)
>
> "Confinement - loss of sense of time, loss of interaction with the family." (E4)
>
> "Confinement syndrome - due to long length of stay in the ICU and especially in elderly patients, confinement increases the stress level and consequently disorientation." (N6)

It is noticed in the intensive clinical care practice that the patient's risk of developing delirium is promoted by the isolation that occurs due to hospitalization and distancing from the family. Delirium is associated with longer ICU stays, thus corroborating the results of this study[4], which is also shared by other respondents. It is seen in the literature that the incidence of delirium is between 5 and 92% of patients and is associated with high mortality and increased length of stay in the ICU[12].

Studies have reported significantly longer lengths of stay in the ICU among patients with delirium. Regarding the length of hospital stay, this was significantly longer for patients with delirium[10].

A study carried out with critically ill patients showed that the isolation caused by admission to individual rooms or by the absence and/or restriction of visits increases the risk of the patient developing delirium[17].

Orientation in time and space is one of the care measures that can be included in nursing care to patients as a way to minimize delirium. This orientation is essential for the mental health status of patients, as hospitals often do not have windows with natural light, making it impossible for the patients to perceive the passage of time. The existence of windows or changes in lighting during the day, and the presence of clocks and calendars contribute to the improvement of the sleep-wake cycle[18].

- Age: an important condition that can lead to delirium

Regarding biological factors, advanced age stands out as a factor associated with the development of delirium, widely recognized, also by the interviewees in this research:

> "Elderly people (over 65 years old) - elderly patients are more likely to develop it." (N18)
>
> "Senility by itself already is a triggering factor for disorientation and consequently delirium, this is accentuated to the condition of hospitalization in the intensive care environment..." (N15)
>
> “Age: with aging, the risk of delirium increases; pathology: depending on the clinical picture, the patient can progress with delirium due to metabolic alterations that each pathology can present...” (N11)
>
> "Elderly age - confinement of the elderly, he can present this condition of delirium." (N3)

Studies confirm that age above 65 years is an independent factor for delirium. Delirium is considered the most frequent neurobehavioral disorder in hospitalized elderly, affecting up to 75.6% of elderly ICU patients[5,19].

It is known that elderly people are particularly more susceptible to the occurrence of delirium due to changes resulting from the processes of senescence and senility, which causes a reduction in physiological reserves and increases the development of acute conditions associated with this dysfunction, such as neurological, metabolic, cardiovascular and systemic disorders[16]. Furthermore, sedative analgesics have a prolonged time of action due to saturation of peripheral tissues and the presence of active metabolites that may accumulate.

In a study that compared the incidence of delirium and the age of patients, a different result was found: there was a statistically significant difference only in patients with subsyndromal delirium, and age did not increase the incidence of delirium. Subsyndromic conditions are those that do not meet all the criteria for a medical diagnosis because the signs are few, that is, in subsyndromic conditions, patients have one to three signs of delirium, but they do not characterize the clinical diagnosis[20]. It is also added that, in hospital services, 20% of elderly people on average are diagnosed with delirium at admission and it is known that 40% of them still have these signs after discharge from the ICU[20].

In this sense, it is observed that a large part of elderly people who return to their homes will have functional disabilities that will directly affect their quality of life and that of their families, as these disabilities are related to the individuals' capacity to maintain their functionality.

As a limitation of this study, in this study there was no information about the nursing care that the participants performed as measures for the prevention and early identification of delirium besides recognizing the risk factors, which was the objective of the research.

As a contribution to nursing, it is considered that knowing the factors that are associated with the emergence of delirium favors the assessment by nurses in the ICU. This assessment should be carried out following protocols for the care of critically ill patients, using the CAM-ICU scale, which is essential for timely identification of signs and characteristics of patients regarding the onset of delirium.

CONCLUSION

The results allowed us to conclude that nurses know some of the risk factors for the development of delirium in the ICU, with emphasis to confinement, age over 65 years, noise, brightness, sleep deprivation, prolonged use of sedation, and mechanical ventilation.

The perception of nurses regarding delirium has gaps and, in this context, it is essential that they deepen their knowledge on the subject in order to improve their practice, identifying early signs of this condition and intervening whenever possible to mitigate damages.

It is important to emphasize the need to implement the use of protocols and scales for identification and monitoring of delirium by nurses in health services, as well as the publication of more studies addressing the theme of delirium.

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