



OCCURRENCE OF DELIRIUM IN CRITICAL PATIENTS IN INTENSIVE CARE UNITS

Lyana Reis de Moura Benzamat*

Flavia Giron Camerini**

Tiago Braga do Espírito Santo***

Cíntia Silva Fassarella****

Andreza Serpa Franco*****

Danielle de Mendonça Henrique*****

ABSTRACT

Objective: to describe the occurrence of *delirium* in critical patients after application of a screening instrument. **Method:** cross-sectional study, with convenience sampling, to survey the frequency of *delirium* in critical patients. In the first part of the study, an *in locu* observation was performed for the diagnosis of *delirium*; then, a research was performed with medical records to collect epidemiological data. Data were collected from August to October 2018. **Results:** 18 patients met the inclusion criteria and 7 (38.9%) were diagnosed by the screening instrument for *delirium*. Among the patients diagnosed with *delirium*, all had a length of hospitalization longer than 7 days. It is noteworthy that 3 (42.9%) patients made use of mechanical restraint and 2 (28, 57%) made use of physical restraint. There was an adverse event among patients affected by the syndrome during the observation period. **Conclusion:** there was an occurrence rate of 38.8% of *delirium* in critical patients. This datum points to *delirium* as a challenge in the care of high complexity patients. Underreporting stands out as an important obstacle to proper management and prevention.

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

INTRODUCTION

Delirium is considered to be a mental, acute, fluctuating and generalized organic syndrome, which generates impairment of cognitive functions⁽¹⁾.

In intensive care units, the incidence of *delirium* can reach more than 80% of patients, especially the elderly with or without a history of dementia. The prevalence presented in multicenter studies varies between 32.3% and 77%, and the incidence can vary between 45% and 87%. The high rates vary according to the study population and the scale used to identify *delirium*⁽²⁻⁵⁾.

These rates are worrisome due to the close relationship of the syndrome with the increase in mortality rates (every 48 hours in *delirium* increase mortality by 11%), the length of

hospitalization (average increase of 7.32 days of hospitalization in Intensive Care Units) and the time of use of mechanical ventilation (more than 7.22 days under mechanical ventilation), accidental removal of tubes and catheters, cognitive impairment, emergence of injuries (self-harm and pressure injuries) and increased hospital costs (39% higher than unaffected patients)⁽²⁻⁵⁾.

Given the high incidence rate and all its clinical repercussions, it is necessary to properly diagnose *delirium*. Currently, the most used scale for the detection and evaluation of *delirium* is the "Confusion Assessment Method for the Intensive Care Unit" (CAM-ICU), which has specificity and sensitivity, and is validated in Portuguese. This scale was created from the Diagnostic and Statistical Manual of Mental Disorders, and focused on diagnosing *delirium*

*Nurse. Postgraduate student in Intensive Therapy. Rio de Janeiro, RJ, Brazil. E-mail: lyanamoura.enf@gmail.com ORCID ID: <https://orcid.org/0000-0003-0388-043X>

**Nurse. PhD in nursing. Associate Professor at the medical-surgical department of the Nursing School of the Universidade do Estado do Rio de Janeiro (UERJ). Rio de Janeiro, RJ, Brazil. E-mail: fcamerini@gmail.com ORCID ID: <https://orcid.org/0000-0002-4330-953X>

***Nurse. PhD in nursing. Adjunct Professor at the medical-surgical department of the Nursing School of the UERJ. Rio de Janeiro, RJ, Brazil. E-mail: tbes81@gmail.com ORCID ID: <https://orcid.org/0000-0002-4313-6894>

****Nurse. PhD in nursing. Adjunct Professor at the medical-surgical department of the Nursing School of the UERJ. Rio de Janeiro, RJ, Brazil. E-mail: cintiafassarella@gmail.com ORCID ID: <https://orcid.org/0000-0002-2946-7312>

*****Nurse. PhD in nursing. Assistant Professor at the medical-surgical department of the Nursing School of the UERJ. Rio de Janeiro, RJ, Brazil. E-mail: dezzafranco@gmail.com ORCID ID: <https://orcid.org/0000-0001-5008-1345>

*****Nurse. PhD in nursing. Adjunct Professor at the medical-surgical department of the Nursing School of the UERJ. Rio de Janeiro, RJ, Brazil. E-mail: danimendh@gmail.com ORCID ID: <https://orcid.org/0000-0002-0656-1680>

in patients with profile of intensive treatments (using mechanical ventilation, sedated, comatose, unable to answer questionnaires) but does not establish the severity of the syndrome as a parameter⁽⁶⁾.

In this context, the nursing team plays an important role in the early detection and treatment of *delirium*. This relationship is due to the greatest presence of the category at the patient's bedside, enabling the use of prevention strategies continuously during hospital care⁽⁷⁾.

However, despite the relevance of the theme, about 3% to 66% of *delirium* cases are not diagnosed in intensive care units and only 16% of professionals claim to use a specific assessment scale daily. These data indicate the need for training professionals to use scales and deepen knowledge regarding the syndrome and management, especially concerning preventive measures^(3,7).

Therefore, nursing professionals, in view of their high careload at bedside, can contribute both to reducing and increasing cases of *delirium*, through the following issues: low awareness on the subject; inefficient communication in the family versus professional relationship; low sleep quality of patients due to excessive noise; and polypharmacy⁽⁵⁾.

The relevance of this study is due to both the large number of critical patients affected by the syndrome and the high occurrence of adverse events resulting from *delirium*. Thus, early diagnosis, correct management of the syndrome and training of nursing professionals become necessary. In the literature and in clinical practice, the CAM-ICU instrument is the most effective way to identify *delirium*, with high sensitivity (94.1%) and specificity (96.4%), presenting credibility for use in clinical practice⁽⁸⁾.

Those actions can directly reduce adverse events related to *delirium*, such as accidental withdrawal of enteral, ventilator, venous devices, increased hospitalization time, accidental skin lesions due to the hyperactive state, pressure injuries due to the hypoactive state, among others⁽⁹⁾.

In short, this study aims to describe the occurrence of *delirium* in critical patients after application of a screening instrument.

METHOD

This study covers a cross-sectional, descriptive observational research to survey the prevalence of *delirium* in critical patients.

Regarding the inclusion criteria used, they were: patients admitted to the intensive care unit, regardless of the diagnosis, aged 18 years or over. Patients with a history of neurological/psychiatric disease and/or a Richmond Agitation-Sedation Scale (RASS) scale between -4 and -5, that is, comatose patients, without interaction with the evaluator, were excluded from the evaluation by the CAM-ICU scale.

Convenience sampling was performed by the analysis of hospitalized patients using the CAM-ICU scale by the researcher, who observed patients at the bedside (*in loco*) to identify the occurrence of *delirium*. Subsequently, in patients diagnosed with *delirium*, a documentary analysis was performed, in medical records, to collect patient data, which met the proposed inclusion and exclusion criteria.

The sample analyzed consisted of 90 patients hospitalized during the collection period, of which 18 met the eligibility criteria and 7 were diagnosed with *delirium* and included in the study.

The scenario was a general intensive care unit of a university hospital in Rio de Janeiro with a capacity of 10 beds and a nursing team composed of nurses, residents and nursing technicians.

The first stage of the research was performed with the previous application of the Richmond Agitation-Sedation Scale (RASS), which analyzed the level of consciousness of patients and guided their inclusion in the study by scoring between +4 and -5; then, the researcher applied the CAM-ICU scale to diagnose *delirium*, at the bedside (*in loco*), diagnosing 7 *delirium* cases.

In the second part of the research, a documentary analysis was made in the medical records of patients with *delirium*, for the collection of epidemiological data, history, notifications of adverse events, previous diagnosis of *delirium*, use of restraints and medications in use.

Physical restraint was considered immobilization without causing harm to the patient, through the use of bandages or specific industrialized devices, and as mechanical restraint, the use of movement restrictors in the upper and lower limbs⁽¹⁰⁾.

In addition to the clinical aspects of delirium, adverse events reported in medical records were observed. The accidental removal of enteral, ventilator and venous devices was considered as an adverse event related to *delirium*.

Data collection was performed during the months of August to October 2018, by the main researcher, with patients hospitalized in the sector on Mondays and Wednesdays.

Data were tabulated from simple descriptive statistics, using Microsoft Excel®, version 2010.

This study met all standards established by Resolution 466/2012 of the Ministry of Health,

which regulates the scientific research with human beings, being approved by the Research Ethics Committee (REC) of the institution under n. 2.138.724, without requiring the signing of the Informed Consent Form according to the nature of the study and the conditions of a critical patient, in addition to the approval by the REC.

RESULTS

Eighteen patients were included in the study. Among the observed patients, 11 (61.1%) were female, 9 (50.0%) were aged 60 years or older, 7 (38.9%) were diagnosed with *delirium* by the evaluation scale CAM-ICU used by the researcher and only 1 of the patients diagnosed with *delirium* already had the syndrome diagnosed by the unit (Table 1).

Table 1. Profile of patients investigated for *delirium* in the Intensive Care Unit. Rio de Janeiro, RJ, Brazil, 2018 (n=18)

Characteristics	n	%
Sex		
Female	11	61.1
Male	7	38.9
Age		
18 - 59 years	9	50.0
60 years or more	9	50.0
Time hospitalized		
Over 7 days	16	88.9
7 days or less	2	11.1
Delirium		
Negative	11	61.1
Positive	7	38.9
Previous diagnosis of delirium		
No	17	94.4
Yes	1	5.5
Total	18	100.0

Source: the author, 2019.

Of the 18 patients analyzed, 2 (11.1%) had less than 7 days of hospitalization. Among the 7 patients diagnosed with *delirium*, all had a length of hospitalization longer than 7 days (Table 1).

Considering that critical patients are polypharmaceuticals, the main medications used were analyzed. Among the most frequent, sedatives (50%), antihypertensives (10.5%) and antibiotics (38.9%) stand out.

Table 2. Description of drugs used by delirious patients observed in the Intensive Care Unit. Rio de Janeiro, RJ, Brazil, 2018 (n=18)

Medications	n	%
Sedatives	9	50.0
Antibiotics	7	38.9
Antihypertensive	2	11.1
Total	18	100.0

Source: the author, 2019.

After applying the scales, in order to better analyze the cases included in the study, 7 (38.9%) patients with a diagnosis of *delirium* stood out, as shown in Table 3.

Table 3. Cases of delirium observed in the Intensive Care Unit. Rio de Janeiro, RJ, Brazil, 2018 (n=7)

Cases of delirium	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Sex	Female	Female	Male	Male	Male	Female	Female
Age	18 - 30 years	Over 60 years	Over 60 years	Over 60 years	Over 60 years	31 - 59 years	Over 60 years
Time hospitalized	21 days	62 days	13 days	27 days	59 days	76 days	15 days
Previous diagnosis of delirium	No	No	No	Yes	No	No	No
Medications in use	Antihypertensive Sedatives Antibiotics	Sedatives Antibiotics	Antibiotics Antihypertensive	Sedatives Antibiotic	Sedatives Antibiotics	Sedatives Antibiotics	Sedatives Antibiotics
Sedatives in use	Fentanyl Propofol	Fentanyl Propofol	None	Midazolam	Fentanyl	Fentanyl	Fentanyl Midazolam
Use of containments	Mechanical Physical	Mechanical	None	Mechanical Physical	None	None	None
Adverse Events	UPE of the OTT	-	-	-	-	-	-

Source: the author 2018.

*UPE: Unplanned extubation

*OTT: Orotracheal tube

In the sample of 7 patients diagnosed with *delirium*, 4 (57.1%) are female, 5 (71.4%) are 60 years old or older and 7 (100.0%) have a hospitalization time greater than 7 days. The average length of stay is 39 days.

It is noteworthy that, prior to the study, only 1 (14.3%) patient was diagnosed and notified (on medical records) with *delirium* (Table 3). The most frequently administered class of medications in patients with the syndrome were sedatives, with 10 (52.6%) patients taking them.

The use of containments was also analyzed, which may be physical, mechanical or chemical, since 3 (42.9%) patients made use of mechanical containment and 2 (28, 6%) of physical containment. There were no records of the use of chemical containment in patients affected by the syndrome.

It was observed that, in the sample of patients analyzed, an adverse event was identified during the observation period, in which there was

unplanned extubation of the orotracheal tube from a patient affected by *delirium*.

DISCUSSION

The evidence indicates that *delirium* has some predisposing factors for its occurrence. Among them can be highlighted sex, age equal to or greater than 60 years and use of medications (psychotropic, hypnotic, sedative etc.). The results show the prevalence of female patients diagnosed with *delirium*.⁽⁹⁾

Regarding age, the results corroborate the studies on the subject, since the syndrome most often affects elderly patients⁽⁹⁾.

Due to the generalized dysfunctions caused by the syndrome, there is an increase in the average hospitalization time of intensive therapy patients, in which all cases analyzed had more than 7 days of hospitalization. This finding is associated with the results described in the

literature, which indicate an average increase of 7.32 days of hospitalization in critical patients due to impairments from *delirium*⁽²⁾.

Through prolonged hospitalization time, identified in some patients with *delirium*, there are non-pharmacological interventions for its management, among them is the presence of the family, which has active participation in the cognitive stimulation of patients. Another non-pharmacological measure available includes daily awakening, since there is an interrelation between the continuous use of sedatives and cognitive dysfunctions⁽¹²⁾.

The daily awakening protocol aims to reduce the effects of excessive sedation in critical patients. The administration of high doses of sedatives associated with the unusual use of this class of medications increases mortality and morbidity rates, the time of use of ventilator prostheses, and the risk of *delirium*⁽¹³⁻¹⁵⁾.

This occurs by reducing or interrupting the administration of sedatives in a period of 24 hours. A study conducted in 2019 shows that, in an intensive care unit, the daily interruption of sedation occurs in about 51.6% of the observations, in contrast to what was observed in this study. Therefore, an institutional protocol is necessary for the implementation of this measure⁽¹⁶⁾.

Even with these findings, some practices regarding sedation protocols still deviate from the standard actions described in the literature. The results show that 6 (60%) patients used fentanyl for analgesia and sedation. However, in order to prevent cognitive impairments, the use of lorazepam is preferably considered, for continuous or intermittent venous sedations, and propofol to provide a faster awakening. Of the observed patients, 2 (20%) used midazolam, which, according to the literature, is frequently associated with the diagnosis of *delirium*⁽¹⁵⁾.

Nevertheless, fentanyl in continuous use or in high doses can cause respiratory depression and accumulation in the patient's body, which makes it difficult to wake up daily and wean from sedation, increasing the *delirium* index, unlike lorazepam, midazolam, propofol and dexmedetomidine⁽¹⁴⁾.

The pharmacological therapy used more frequently points to a probable lack of

knowledge or little training of the multiprofessional team about *delirium*⁽¹⁷⁾.

Many health professionals still understand the use of mechanical and physical restraint as forms of management of *delirium*, however this habit is considered a precipitating and aggravating factor of the syndrome. These data are demonstrated when 3 (42, 85%) cases described make use of some type of containment, without any type of prescription or justification for the use recorded in medical records⁽⁵⁾.

There are still many questions and debates about the definitions of what would be physical and mechanical containments. However, physical restraint can be the immobilization of the patient by the members of the multiprofessional team without damage, and mechanical restraint, the use of movement restrictors in the upper and lower limbs⁽¹⁰⁾.

However, the use of mechanical containment requires medical prescription and the justification for its use, because it can harm the patient, being subject to ethical processes. In addition to legal issues, the incorrect use of mechanical containment is questioned, since both the placement and the material used can injure the humanized management of *delirium*, and may actually aggravate it.

This study obtained a frequency of 7 (38.9%) patients with *delirium*, corroborating the high incidence rate described in the literature (56% to 72% of patients)⁽⁵⁾. Thus, it is necessary to be more vigilant about possible adverse events resulting from the syndrome in critical patients. Given the results, 1 (14.28%) of patients diagnosed with *delirium* suffered an adverse event, resulting in an unplanned extubation of the orotracheal tube. This fact can be classified as a serious adverse event, since it could cause harm to the patient or even lead to death⁽⁵⁾.

It is estimated that approximately 42.7 million adverse events occur in patients worldwide per year⁽¹⁸⁾.

Another study indicates that 17% of patients with positive *delirium* had worsening of the prognosis due to the occurrence of adverse events and that the occurrence of these incidents is significantly lower in the absence of the syndrome⁽¹⁹⁾.

Thus, the challenge of underreporting associated with pathology is notorious, since

only 1 (14.28%) of the patients observed had a previous diagnosis of *delirium* before the study was applied. The adverse events previously discussed had only one record of the fact due to the assessment of the need for a new intubation.

The evaluation of *delirium*, in the reality studied, is not yet considered a routine practice, especially by nurses, thus the underreporting of the syndrome can reach 72% of hospitalized patients. This parameter is ratified by this study, when the practice of daily evaluation of patients through the RASS and CAM-ICU scales is not performed in the observed intensive care unit⁽⁷⁾.

Therefore, underreporting may be associated with the lack of knowledge of the multidisciplinary team about the pathology and/or the difficulty to manage it, permanent education work for professional training and the use of operational protocols related to *delirium*, management and diagnosis.

The need for educational activities with the nursing team, about *delirium*, is notorious in care practice. Initially, the educational needs about the subject were raised and then a continuing education work was carried out to improve the team, from the data collected. As a result, there were improvement of the management of the syndrome and early diagnosis, based on critical reflection on the care provided^(5,20).

The nursing team is one of the main filters when it comes to patient safety. Specifically, as for *delirium*, these professionals are responsible, with the composition of the multiprofessional team, both for the management and for the prevention of cognitive impairments through non-pharmacological measures⁽²¹⁾.

Thus, actions aimed at the environment, mobilization and patient comfort, to maintain the sleep-wake cycle, reducing the discomfort caused by equipment and devices, Encouraging socialization and effective control of physiological parameters are measures that need

to be implemented promptly in the care of critical patients⁽¹⁰⁾.

The main limitation of the study is the quality of records in medical records, as well as the limited number of patients and variables. Due to the multifactorial nature of the occurrence of *delirium*, further studies should be developed, with other variables and designs, as well as multicenter studies in other intensive care settings.

The limiting factors of the study were the scarcity of records and information in the medical records and the lack of daily monitoring of *delirium* through the scales of evaluation by the observed sector.

CONCLUSION

In the sample studied, the prevalence of *delirium* was 38.9%, mostly women (57.14%), aged 60 years or more (71.42%) and all with hospitalization time greater than 7 days. The occurrence of at least one adverse event stands out among patients.

In addition to adverse events and cognitive impairments, *delirium* brings with it a series of aggravating factors that can delay the reestablishment of critical patients. This shows the need for studies that correlate the increased hospital costs, adverse events, cognitive sequelae, length of hospital stay and all other possible factors that interfere with the course of care for critical patients diagnosed with *delirium*. Only then could more effective actions for permanent education of the multiprofessional team be carried out, thus reducing underreported cases and the frequency of the syndrome.

Delirium is still a major challenge in critical patient care. There are still many scientific gaps related to the disease, highlighting underreporting as an important obstacle to proper management and prevention.

OCORRÊNCIA DE DELIRIUM EM PACIENTES CRÍTICOS EM UNIDADE INTENSIVA

RESUMO

Objetivo: descrever a ocorrência de *delirium* em pacientes críticos após aplicação de instrumento de rastreio. **Método:** estudo transversal, com amostra por conveniência, para o levantamento da frequência de *delirium* em pacientes críticos. Na primeira parte do estudo, realizou-se uma observação *in locu* para o diagnóstico de *delirium*; em seguida, fez-se uma pesquisa em prontuário para o levantamento de dados epidemiológicos. Os dados foram coletados de agosto a outubro de 2018. **Resultados:** 18 pacientes atenderam aos critérios de inclusão e 7(38,9%) foram diagnosticados pelo instrumento de rastreio para *delirium*. Dentre os pacientes com diagnóstico de *delirium*, todos possuíam tempo de internação superior a 7 dias. Destaca-se que 3 (42,9%)

pacientes fizeram uso de contenção mecânica e 2 (28, 57%) fizeram uso de contenção física. Ocorreu um evento adverso entre os pacientes acometidos pela síndrome, durante o período de observação. **Conclusão:** evidenciou-se uma taxa de ocorrência de 38,8% de *delirium* em pacientes críticos. Esse dado aponta o *delirium* como um desafio na assistência a pacientes de alta complexidade. Destaca-se a subnotificação como um obstáculo importante para o manejo e prevenção adequados.

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

OCURRENCIA DE DELIRIUM EN PACIENTES CRÍTICOS EN UNIDAD INTENSIVA

RESUMEN

Objetivo: describir la ocurrencia de *delirium* en pacientes críticos después de la aplicación del instrumento de cribado. **Método:** estudio transversal, con muestreo por conveniencia, para el análisis de la frecuencia de *delirium* en pacientes críticos. En la primera parte del estudio, se realizó una observación *in locu* para el diagnóstico de *delirium*; a continuación, se realizó una investigación en registro médico para la recopilación de datos epidemiológicos. Los datos se recopilaron de agosto a octubre de 2018. **Resultados:** 18 pacientes cumplieron con los criterios de inclusión y 7 (38,9%) fueron diagnosticados por el instrumento de cribado para *delirium*. Entre los pacientes con diagnóstico de *delirium*, todos poseían tiempo de internación superior a 7 días. Se destaca que 3 (42,9%) pacientes hicieron uso de contención mecánica y 2 (28, 57%) hicieron uso de contención física. Ocurrió un acontecimiento adverso entre los pacientes afectados por el síndrome, durante el período de observación. **Conclusión:** se evidenció una tasa de ocurrencia de 38,8% de *delirium* en pacientes críticos. Este dato señala el *delirium* como un desafío en la atención a pacientes de alta complejidad. Se destaca la subnotificación como un obstáculo importante para el manejo y la prevención adecuados.

Palabras clave: Delirio. Cuidados Críticos. Cuidados de Enfermería. Unidades de Cuidados Intensivos.

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Corresponding author: Flavia Giron Camerini. Street Boulevard 28 de Setembro 157/822. Vila Isabel. Rio de Janeiro, RJ, Brasil. Telephone: (21) 993829834. E-mail: fcamerini@gmail.com

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