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Santos BL, Jesus JA. Nursing Professionals' Knowledge of the Identification and Prevention of Delirium in the Intensive Care Unit. Rev. Tec. Cient. CEJAM. 2026;5:e202650053. DOI: <https://doi.org/10.59229/2764-9806.RTCC.e202650053>.

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Submitted

12-09-2025

Accepted

05-18-2026

Original Article

Nursing Professionals' Knowledge of the Identification and Prevention of Delirium in the Intensive Care Unit

Conhecimento de Profissionais de Enfermagem sobre Identificação e Prevenção do Delirium na Unidade de Terapia Intensiva

Conocimientos de los Profesionales de Enfermería sobre la Identificación y Prevención del Delirio en la Unidad de Cuidados Intensivos

Abstract

Objective: To assess nursing professionals' knowledge regarding the identification and prevention of delirium in patients admitted to the intensive care unit. **Method:** This was a quantitative, cross-sectional observational study conducted with 47 nursing professionals working in an intensive care unit, using an anonymous online questionnaire consisting of 14 multiple-choice questions related to demographic data and knowledge regarding the identification and prevention of delirium. **Results:** The findings showed that 70.2% of the nursing staff assessed possessed technical knowledge regarding the identification of the main signs and symptoms, and 80.9% were familiar with measures to prevent delirium. Additionally, 87.2% adhere to the development and implementation of specific protocols. **Conclusion:** The study revealed that nursing professionals possessed technical knowledge about delirium, but there were gaps in the use of identification tools. Furthermore, the importance of the evaluated professionals' recognition of the need to create specific protocols to strengthen training and the implementation of institutional protocols reinforces the detection and prevention of delirium in intensive care units.

Descriptors: Delirium; Intensive Care Units; Health Knowledge, Attitudes, Practice; Nurse Practitioners; Critical Care Nursing.

Resumo

Objetivo: Verificar o conhecimento dos profissionais de enfermagem sobre identificação e prevenção do delirium em pacientes internados na unidade de terapia intensiva. **Método:** Trata-se de uma pesquisa quantitativa, do tipo estudo observacional transversal, realizada com 47 profissionais de enfermagem atuantes em uma unidade de terapia intensiva, por meio de um questionário online anônimo, composto por 14 questões de múltipla escolha relacionados a dados demográficos e conhecimentos sobre identificação e prevenção de delirium. **Resultados:** Foi demonstrado que 70,2% da equipe de enfermagem avaliada possuía conhecimento técnico quanto à identificação dos principais sinais e sintomas e 80,9% conheciam medidas de prevenção do delirium. Adicionalmente, 87,2% aderem à formulação e implementação de protocolos específicos. **Conclusão:** O estudo revelou que houve um conhecimento técnico dos profissionais de enfermagem sobre delirium, porém com lacunas no uso de ferramentas de identificação. Além disso, a importância do reconhecimento dos profissionais avaliados quanto à criação de protocolos específicos para fortalecer a capacitação e implantação de protocolo institucional, consolidam a detecção e prevenção do delirium em unidades de terapia intensiva.

Descritores: Delírio; Unidades de Terapia Intensiva; Conhecimentos, Atitudes e Prática em Saúde; Profissionais de Enfermagem; Enfermagem de Cuidados Críticos.

Resumen

Objetivos: Evaluar los conocimientos de los profesionales de enfermería en la identificación y prevención del delirio en pacientes hospitalizados en la unidad de cuidados intensivos. **Método:** Se trata de una investigación cuantitativa, del tipo estudio observacional transversal, realizada con 47 profesionales de enfermería que trabajan en una unidad de terapia intensiva, mediante un cuestionario en línea anónimo, compuesto por 14 preguntas de opción múltiple relacionadas con datos demográficos y conocimientos sobre la identificación y prevención del delirio. **Resultados:** Se demostró que el 70,2 % del equipo de enfermería evaluado poseía conocimientos técnicos sobre la identificación de los principales signos y síntomas, y que el 80,9 % conocía las medidas de prevención del delirio. Además, el 87,2 % se adhiere a la formulación e implementación de protocolos específicos. **Conclusión:** El estudio reveló que existía un conocimiento técnico de los profesionales de enfermería sobre el delirio, aunque con lagunas en el uso de herramientas de identificación. Además, la importancia que los profesionales evaluados le otorgan a la creación de protocolos específicos para fortalecer la capacitación y la implementación de un protocolo institucional consolida la detección y prevención del delirio en las unidades de cuidados intensivos.

Descriptores: Delirio; Unidades de Cuidados Intensivos; Conocimientos, Actitudes y Práctica en Salud; Enfermeras Practicantes; Enfermería de Cuidados Críticos.

INTRODUCTION

According to the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) published by the American Psychiatric Association, *delirium* is defined as an alteration of consciousness and attention, followed by episodes of cognitive disturbance over a short period of time and with fluctuating characteristics throughout the day⁽¹⁾.

The prevalence of this diagnosis, according to the DSM-5, is higher in the elderly population, reaching approximately 14% of individuals over the age of 85. Furthermore, the incidence of this condition in a hospital setting can affect around 60% of patients admitted to an intensive care unit (ICU). Following the diagnosis of this disorder and throughout the patient's course of illness, there is a significant increase of up to 40% in in-hospital mortality⁽¹⁾.

The Brazilian literature demonstrates a high incidence of *delirium* in critically ill patients. In a study conducted in the ICU of a hospital in the Northeast region, a prevalence of 45.9% was observed, consistent with ranges described in the literature (28%–73%), reinforcing the epidemiological relevance of the syndrome in intensive care⁽²⁾.

At an emergency hospital in the state of Goiás, the prevalence was 18.6% among 102 patients, with no association with age, length of stay, or polypharmacy, but related to the use of physical restraints, highlighting the occurrence of *delirium* in different hospital settings in Brazil⁽³⁾.

Delirium is a condition that can be prevented through measures in patient care, by promoting effective communication between healthcare professionals and the patient and their family members, guiding them regarding the course of the disease and the environment in which they find themselves. Furthermore, the study highlights the importance of the correct and non-excessive use of mechanical and chemical restraints, such as sedatives, which have been identified as risk factors for the development and progression of this disorder, underscoring the importance of patient mobilization in intensive care settings^(1,4–6).

The prevention of *delirium* in these patients can be based on the most recent guideline, the *Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the Intensive Care Unit*, a descriptive guide on the management and care of ICU patients, covering aspects related to the assessment, diagnosis, treatment, and prevention of *delirium* in ICU patients and featuring the ABCDEF mnemonic^(5–6).

One of the validated scientific tools for identifying *delirium* in the intensive care setting is the *Confusion Assessment Method for the Intensive Care Unit* (CAM-ICU), a method based on another *delirium* identification tool, the *Confusion Assessment Method* (CAM), which is used in various hospital departments⁽⁷⁾.

The CAM-ICU was developed to assess patients on mechanical ventilation, given their inability to communicate verbally. It consists of four stages: 1- acute onset or fluctuating course of mental status, 2- attention disturbance, 3- altered level of consciousness, and 4- disorganized thinking. Based on this, the assessment involves observing the patient's nonverbal response patterns through their responses to simple commands, recognition of figures using the *Attention Screening Examination* (ASE), alertness, and responses to simple, logical yes-or-no questions⁽⁷⁾.

Given the clinical relevance of *delirium* in the intensive care setting and the need for early recognition to reduce complications, this study aims to assess nursing professionals' knowledge regarding the identification and prevention of *delirium* in patients admitted to the ICU. Additionally, the study seeks to identify these professionals' understanding of the importance of these practices in daily care and, finally, to evaluate the future possibility of developing and implementing an institutional protocol aimed at identifying *delirium* in the intensive care setting.

METHOD

Design, Setting, and Time Period

A cross-sectional observational epidemiological study designed to assess nursing professionals' knowledge regarding the identification and prevention of *delirium* in an ICU

The study was conducted in Adult ICU 1 at the Dr. Fernando Mauro Pires da Rocha Municipal Hospital, with data collected between August 8 and September 8, 2025.

This study followed the recommendations of the STROBE checklist, from the EQUATOR Network, for cross-sectional observational studies.

Participants

Fifty nursing professionals (nursing technicians and registered nurses) working on day and night shifts participated. Professionals who were on duty during the data collection period and agreed to participate were included. Incomplete responses were excluded.

Instrument and Variables

Data were collected via an anonymous online questionnaire consisting of 14 self-designed multiple-choice questions. The instrument addressed demographic variables and knowledge regarding the identification, prevention, signs, symptoms, risk factors, and assessment tools for *delirium*, based on information presented in the Clinical Practice Guidelines for the Prevention and Treatment of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disorders in Adult Patients in the ICU and the CAM-ICU instrument^(5,7).

Table 1 - Questionnaire items administered, São Paulo (SP), Brazil, 2025.

No.	Question
1	Which age group do you fall into?
2	What shift do you work?
3	What nursing position do you hold?
4	What is <i>delirium</i> ?
5	What are the main signs and symptoms of a patient with <i>delirium</i> in the ICU?
6	What tool can the nursing team use to diagnose <i>delirium</i> in the ICU?
7	Do you perform daily cognitive assessments during your shift?
8	Can <i>delirium</i> be prevented in an ICU setting?
9	Is mechanical restraint considered a risk factor for <i>delirium</i> ?
10	Is chemical restraint using antipsychotics or opioids a risk factor for <i>delirium</i> ?
11	What measures can be taken to prevent <i>delirium</i> ?
12	What does it mean to orient the patient in time and space?
13	Do you agree with the development and implementation of a protocol for the prevention and identification of <i>delirium</i> in the ICU?
14	Would you implement the protocol daily during your shift after receiving training?

Source: Prepared by the authors (2025).

Data Collection and Analysis

A questionnaire was sent electronically, allowing for self-administered completion. Responses were recorded on a secure platform, and duplicate responses were prevented by requiring an anonymous email login to access the questionnaire.

The data were organized in a spreadsheet generated by the *Google Forms* spreadsheet tool—the application used to administer the questionnaire—and analyzed using descriptive statistics, with presentation of absolute and relative frequencies.

Ethical and Integrity Considerations

The study was approved by the Research Ethics Committee under CAAE 89614225.3.0000.5452. Participation was contingent upon signing an Informed Consent Form (ICF), which outlined the study's objectives, anonymity, confidentiality, and the option to withdraw at any time. The only risk involved was possible anxiety while completing the questionnaire, which was minimized by the anonymous nature of the responses.

RESULTS

The study yielded 50 responses from professionals who met the inclusion and exclusion criteria of this study. These responses were reviewed and organized into individual tables for each question, as shown below.

The ICF, administered at the beginning of the questionnaire, yielded 50 responses, of which 47 individuals (94%) agreed to participate in the study, and only three professionals (6%) expressed a desire not to participate. That said, the questions discussed below are based on a total of 47 participants, including eight males and 39 females.

The predominant age group was 40–50 years old, with 15 participants (31.9%), followed by 14 participants (29.8%) in the 29–39 age group. Only 21.3% of the participants were in the 18–28 age group (10 participants), and 17% were over 50 years old (8 participants).

The analysis of participation by ICU shifts in this study showed that the day shift had the highest participation rate, with 28 participants (59.6%), compared to 19 responses (40.4%) from the night shift. The majority of participants were nursing technicians, with 35 participants (74.5%), compared to 12 nurses (25.5%).

Table 1 - Demographic characteristics of study participants, São Paulo (SP), Brazil, 2025.

Variable	Category	No.	%
Gender	Female	39	83.0
	Male	8	17.0
Age group	18–28	10	21.3
	29–39	14	29.8
	40–50	15	31.9
	>50	8	17.0
Work shift	Day shift	28	59.6
	Night	19	40.4
Professional category	Nursing technician	35	74.5
	Registered nurse	12	25.5
Total		47	100.0

Source: Prepared by the authors (2025).

Professionals' knowledge regarding the definition of *delirium*—the correct answer being “an alteration of consciousness and attention, followed by episodes of cognitive disturbance over a short period and with fluctuating characteristics throughout the day”—received the highest number of responses, 37 (78.7%), followed by nine respondents (19.1%) who selected “A marked

and persistent disturbance in mood that predominates in the clinical picture, characterized by euphoric, expansive, and irritable mood, with or without depressed mood, or a markedly diminished interest or pleasure in all or almost all activities,” which is an incorrect definition. Finally, only one person (2.1%) reported not knowing the meaning of *delirium*.

Regarding the signs and symptoms of ICU patients with *delirium*, the option “impaired orientation to the environment, disturbance of the sleep-wake cycle, irritability, apathy, euphoria, psychomotor agitation”—considered correct—received 33 responses (70.2%). The incorrect option, “hallucinations, disturbance of the sleep-wake cycle, decreased electrical activity confirmed by electroencephalogram, dementia,” received 13 responses (27.7%), followed by one person (2.1%) who reported not knowing the main signs and symptoms.

The lack of knowledge among most professionals regarding diagnostic tools for *delirium* in the ICU was evidenced by 27 responses (57.4%) of “I don't know,” followed by 17 respondents (36.2%) who correctly identified the CAM-ICU method, and three incorrect responses (6.4%) that cited the incorrect tool, *Precivity AD2*.

When determining whether nursing professionals performed daily cognitive assessments of their patients during their shifts, it was found that 59.6% of the professionals stated they performed the assessment, while 40.4% stated they performed it only when possible.

Table 2 - Knowledge and practices related to *delirium* in the ICU, São Paulo (SP), Brazil, 2025.

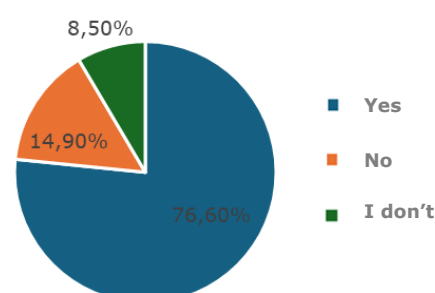
Question/Variable	Response Category	No.	%
Signs and symptoms of <i>delirium</i>	Correct answer	33	70.2
	Incorrect answer	13	27.7
	Don't know	1	2.1
Knowledge of diagnostic tools	Don't know	27	57.4
	Correct answer	17	36.2
	Incorrect answer	3	6.4
Daily cognitive assessment	Performed daily	28	59.6
	Performed when possible	19	40.4
Total		47	100.0

Source: Prepared by the authors (2025).

Regarding nursing professionals' knowledge of whether *delirium* is a preventable condition in an ICU setting, 36 respondents (76.6%) selected the correct answer, “yes,” while seven individuals (14.9%) reported that it is not preventable, and four (8.5%) admitted they did not know the answer.

Figure 1 - Assessment of professionals' knowledge regarding whether *delirium* can be prevented in the ICU, São Paulo (SP), Brazil, 2025.

Can *delirium* be prevented in the ICU setting?



Source: Prepared by the authors (2025).

Regarding whether mechanical restraint is a risk factor for the development of *delirium*, there were 28 correct responses (59.6%) stating that it is a risk factor, followed by 18 people (38.3%) who denied this fact. Only one person (2.1%) reported not knowing the answer.

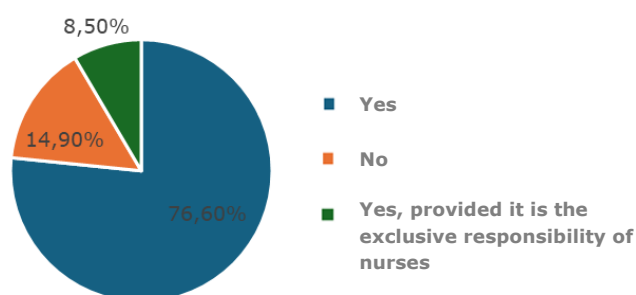
In contrast, the incorrect option, that chemical restraint is not considered a risk factor, was selected by 27 respondents (57.4%), while only 16 professionals (34%) confirmed that it is a risk factor, and four (8.5%) indicated they did not know the answer to the question.

Adequate technical knowledge regarding *delirium* prevention measures that can be applied daily received 38 responses (80.9%), compared to only seven professionals (14.9%) who selected the incorrect answer, and two (4.3%) who did not know the answer to the question.

The correct answer regarding orientation in time and space for the patient resulted in 43 correct responses (91.5%), while the other two options, the incorrect one and the "do not know" response, each received two responses (4.25%).

Figure 2 - Assessment of healthcare professionals' acceptance of a potential protocol for the prevention and identification of *delirium* in the ICU, São Paulo (SP), Brazil, 2025.

Do you agree with the possibility of developing and implementing a new protocol for the prevention and identification of *delirium* in the ICU?



Source: Prepared by the authors (2025).

When evaluating the possibility of developing and implementing a new protocol in the ICU aimed at preventing and identifying *delirium*, 85.1% of the interviewed professionals reported that they agree with its creation. Among the remaining options, five professionals (10.6%) stated that they would agree, provided that implementation were the exclusive responsibility of the unit's nurses, and only two (4.3%) did not agree with implementing this protocol.

Regarding the professionals' acceptance of the daily implementation of this new protocol for the identification and prevention of *delirium*, should it be developed, following appropriate nursing training, 41 people (87.2%) confirmed their participation, while five people (10.6%) reported they would not carry it out because it should be performed only by the nurse in the unit in question, and one person (2.1%) did not agree with the daily implementation of this protocol.

DISCUSSION

This study analyzed 47 responses to 14 multiple-choice questions regarding demographic data and knowledge about *delirium*, covering its definition, identification, prevention, and management, as well as the future possibility of implementing an institutional protocol for nursing professionals to apply measures for the prevention and diagnosis of *delirium*.

The results showed a higher prevalence of nursing technicians among participants aged 40–50 who worked the day shift. According to the Ministry of Health, the minimum staffing recommendation in an ICU is one nursing staff member for every ten beds and one nursing technician for every two beds per shift, which explains the high percentage of nursing technicians in this study⁽⁸⁾.

Regarding knowledge of *delirium* and its main signs and symptoms, most participants demonstrated an understanding of the definition described in the American Psychiatric Association's DSM-5. This understanding included recognition of the hyperactive and hypoactive phases, which may vary throughout the day, and did not characterize *delirium* as a condition with persistent manifestations. Furthermore, the professionals recognized the absence of a direct correlation between this syndrome and dementia and the lack of specific abnormalities on electroencephalogram (EEG) tests^(1,4–6).

This understanding of the condition by the intensive care nursing team is considered essential for promoting comprehensive care for critically ill patients. Adequate technical and scientific knowledge significantly contributes to the quality of care provided during hospitalization, given these professionals' direct involvement with patients^(9,10).

Regarding the identification of *delirium* using diagnostic tools available to the nursing staff, it was observed that most participants were unaware of these instruments. The CAM-ICU, mentioned earlier, is a validated tool for use by intensive care nurses, requiring only basic training for its administration. Validation studies of the Portuguese-language version of the instrument demonstrate its applicability and reinforce the feasibility of implementing protocols that include its use by the nursing staff, with the caveat that its administration is the prerogative of the critical care nurse^(11,12).

Daily cognitive assessment, performed as part of routine care, is essential for the early detection of changes in the level of consciousness. Although such observations can be made by the entire nursing team, the São Paulo Regional Nursing Council stipulates that only nurses are authorized to administer sedation scales, such as the *Richmond Agitation-Sedation Scale* (RASS), used in conjunction with the CAM-ICU. This restriction is justified by the need for specific technical and scientific knowledge to ensure the proper use of these instruments. Furthermore, it is recommended that the multidisciplinary team in the ICU continuously observe the patient's behavior and responsiveness^(13–15).

This assessment can be based on the patient's temporal and spatial orientation, which allows for an evaluation of their ability to recognize their surroundings, the date, and the context in which they find themselves. Such an assessment enables effective communication with the patient, valuing their participation and active presence during treatment, even when interaction occurs through devices, such as in situations involving mechanical ventilation. Communication barriers constitute a major risk factor for the development of *delirium*, underscoring the importance of patient integration and engagement in the therapeutic process^(5,9,16).

According to the Clinical Practice Guideline for the Management of Pain, Agitation, and Delirium in Adult ICU Patients, early mobilization is a fundamental strategy for preventing *delirium*, as it helps maintain cognitive function and reduces complications associated with immobility. This evidence contrasts with the perception of some nursing professionals in this study, who reported considering mechanical restraint necessary

for controlling agitation, without recognizing it as a risk factor. However, the use of this measure limits the patient's mobility in bed and may negatively interfere with recommended preventive strategies⁽⁵⁾.

Similarly, a retrospective cohort study of 11,979 adult hospitalizations identified a prevalence of physical restraint of 6.4% and an association between this measure and worse clinical outcomes, including longer hospital stays and mortality. A combined analysis of the evidence reinforces that mechanical restraint, by restricting mobility and reflecting greater care complexity, should be interpreted as a potentially harmful intervention, contributing to increased vulnerability to *delirium* and should therefore be used with caution and as a measure of last resort⁽¹⁷⁾.

With regard to chemical restraint, 27 professionals classified it as necessary rather than as a predisposing factor for *delirium*, a perception that contrasts with evidence indicating a lack of consistent support for the use of antipsychotics, such as haloperidol, in the prevention or treatment of the syndrome. In this context, it is recommended to prioritize mild sedation and daily arousal as safer strategies for clinical management, as they promote reduced exposure to precipitating factors and better monitoring of neurological status^(5,14-16).

Consistent with this, a study conducted in an intensive care unit in Brazil's Northeast region revealed a high prevalence of *delirium* and highlighted the influence of care-related factors—including exposure to sedatives—on its occurrence. A combined analysis of the findings suggests that chemical restraint, although often perceived as necessary for controlling agitation, may increase vulnerability to acute cognitive dysfunction by promoting deeper sedation and reducing the patient's interaction with the environment, reinforcing the need for approaches centered on minimal sedation and systematic monitoring as measures to reduce the prevalence of *delirium*⁽³⁾.

On the other hand, it was observed that most nursing professionals demonstrated knowledge of the main measures for preventing *delirium* in ICU. Among the practices cited, the following stand out: early mobilization whenever possible, orienting the patient in time and space, encouraging active participation in care, adequate management of pain and discomfort, and preserving sleep. These actions are consistent with the recommendations presented, which reinforce the fundamental role of the nursing team in adopting preventive strategies in the daily care of critically ill patients^(4,12,14,16).

Study Limitations

This study has limitations, such as a convenience sample restricted to a single ICU, which may limit the interpretation and generalizability of the results. The self-designed questionnaire lacks formal validation, which may affect the accuracy of the responses. Furthermore, the online self-administered format may have led to variations in the interpretation of the questions. Nevertheless, anonymity and standardization of the administration helped minimize these effects.

Contributions to the Field

The results of this study highlight gaps in the nursing staff's knowledge of *delirium*, particularly regarding risk factors and diagnostic tools. These findings reinforce the need for ongoing training and standardized protocols in the ICU, which can improve the identification and prevention of the condition. For future research, we recommend studies that evaluate educational interventions and the effectiveness of institutional protocols, as well as investigations that allow for comparisons between different units and broaden the applicability of the results.

CONCLUSION

The results showed that the nursing staff at this specific hospital has a good understanding of the definition, signs, symptoms, and preventive measures for *delirium*, although significant gaps remain regarding the use of diagnostic tools—particularly the CAM-ICU, and the understanding of the risks associated with mechanical and chemical restraints. These findings partially reinforce the study's objectives, indicating that, despite an adequate conceptual understanding, there are still weaknesses in the structured identification of the syndrome.

From a practical standpoint, the data reveal the need to strengthen nursing staff training, since a lack of knowledge about formal assessment tools may limit the early detection of *delirium*. The widespread acceptance of an institutional protocol demonstrates a favorable environment for adopting more standardized practices, which may positively influence the quality of care and encourage future research on educational interventions in the ICU.

We therefore recommend the development and implementation of specific care protocols for the identification and management of *delirium*, accompanied by periodic training that includes the use of the CAM-ICU and evidence-based preventive strategies. Such measures can help reduce identified gaps and improve safety and care for critically ill patients.

AUTHORS' CONTRIBUTION

Transparency in authors' contributions according to the [CRediT](#) Taxonomy.

Conceptualization	Bruna Lopes dos Santos; Jucinei Araújo de Jesus
Data Curation	Bruna Lopes dos Santos
Formal Analysis	Bruna Lopes dos Santos; Jucinei Araújo de Jesus
Funding Acquisition	Not applicable
Investigation	Bruna Lopes dos Santos; Jucinei Araújo de Jesus
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Project Administration	Bruna Lopes dos Santos; Jucinei Araújo de Jesus
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STATEMENTS

Conflicts of interest	Not applicable
Funding	Not applicable
Ethical approval	Not applicable
Acknowledgments	Not applicable
Preprint	Not applicable
Artificial Intelligence	Not applicable

ADDITIONAL INFORMATION

The data used in this study were made available in an open-access repository (Zenodo). The anonymized dataset, questionnaire, and variable dictionary are available at: <https://doi.org/10.5281/zenodo.17871094>.

TRANSLATION

The translation of this article was assisted by [DeepL Translator](#) artificial intelligence from the original version written in Portuguese (Brazil). The translated version was submitted to the editorial team for curation, consisting of a limited scope editorial review. Translations assisted by artificial intelligence may vary from the native language.

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