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Nurses and best practices in the management of delirium: a cross-sectional study

Enfermeiros e as práticas recomendadas no manejo de delirium: estudo transversal

enfermeros y mejores prácticas en el manejo del delirio: estudio transversal

ABSTRACT

Objectives: This study aimed to describe nurses' agreement regarding the assessment, diagnosis, and prevention of delirium in the intensive care unit and verify the association of this agreement with the sociodemographic profile of professionals. **Method:** This cross-sectional study was performed in the general and cardiac intensive care units of a high-complexity hospital between January and February 2018. Sixty-one nurses participated in an electronic survey by answering seventeen questions. Those who were on vacation or sick leave during the data collection period were excluded. **Results:** The median number of statements with high agreement was 11 per professional; 64% of the sample obtained low agreement. The statements with the best agreement included risk factors, assessment algorithm, nurse's role, and knowledge of signs of the syndrome. **Conclusion:** Nurses showed low agreement in terms of best practices in the management of delirium.

Descriptors: Delirium; Fidelity to Guidelines; Intensive Care Units; Nursing Team

RESUMO

Objetivos: descrever a concordância dos enfermeiros quanto à avaliação, diagnóstico e prevenção de delirium em uma Unidade de Terapia Intensiva e verificar a associação da concordância ao perfil sociodemográfico dos profissionais. **Método:** estudo transversal realizado nas Unidades de Terapia Intensiva geral e cardiológica de um hospital de alta complexidade, entre janeiro e fevereiro de 2018. Participaram 61 enfermeiros por meio de *survey* eletrônica com dezessete questões, sendo excluídos os que estavam em férias ou licença médica durante a coleta de dados. **Resultados:** a mediana de afirmativas com alta concordância foi de 11 por profissional, com 64% da amostra obtendo baixa concordância. As afirmativas com melhor concordância incluíram fatores de risco, algoritmo de avaliação, atuação do enfermeiro e conhecimento sobre sinais da síndrome. **Conclusão:** os enfermeiros apresentaram baixa concordância às diretrizes de melhores práticas no manejo do delirium.

Descritores: Delírio; Fidelidade a Diretrizes; Unidade de Terapia Intensiva; Equipe de Enfermagem.

RESUMEN

Objetivos: describir la concordancia de enfermeros sobre la evaluación, diagnóstico y prevención del delirio en la Unidad de Cuidados Intensivos y verificar la asociación de concordancia con el perfil sociodemográfico de los profesionales. **Método:** estudio transversal realizado en las Unidades de Cuidados Intensivos Generales y Cardíacos de un hospital de alta complejidad, entre enero y febrero de 2018. Participaron 61 enfermeros en una encuesta electrónica con diecisiete preguntas, se excluyeron aquellos que se encontraban en ferias o de baja por enfermedad durante la recolección de datos. **Resultados:** la mediana de enunciados con alta concordancia fue de 11 por profesional, con un 64% de la muestra obteniendo baja concordancia. Los enunciados con mejor concordancia incluyeron factores de riesgo, algoritmo de evaluación, rol del enfermero y conocimiento sobre los signos del síndrome. **Conclusión:** los enfermeros mostraron bajo acuerdo con las guías de buenas prácticas en el manejo del delirio.

Descriptores: Delirio; Fidelidad a las Directrices; Unidade de Cuidados Intensivos; Equipo de Enfermería.

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INTRODUCTION

Delirium, the most common behavioral presentation of brain dysfunction in intensive care units (ICUs)[1], has a prevalence of 34–44%[2]. Its duration in mechanically ventilated patients is associated with poor long-term cognitive outcomes[3].

Failure to identify delirium can delay the diagnosis of dysfunction and the treatment of its underlying cause[4], with a three-fold increased risk of death, 36-hour longer ICU stay, and 1.79 more days of mechanical ventilation[4,5]. Additionally, 17–78% of ICU survivors who experience delirium experience chronic cognitive impairment after hospital discharge[5].

Thus, the adequate management of delirium is essential to good health outcomes, being better conducted by nurses than by other professionals since, due to their work dynamics, can identify changes in the patient's consciousness level early on[6]. However, delirium remains undiagnosed in up to 50% of cases, and it is often diagnosed late[7]. Factors contributing to this situation include health professionals not understanding the importance of controlling the dysfunction and non-implementation of systematic assessment tools[7].

Changing this scenario depends directly on systematic assessments using validated clinical tools and healthcare measurements that may interfere with modifiable risk factors in vulnerable patients[8]. Delirium is predominantly managed by the nurse, who is responsible for defining and sharing decisions related to the patient's clinical condition with the team. The literature reports delirium management difficulties by these professionals[9] and describes important healthcare-related repercussions.

The most recent guideline for delirium management is based on 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[10], which involves aspects related to delirium assessment, diagnosis, treatment, and prevention in ICU patients. Best practices should include screening tools, daily wake-up tests, delirium monitoring and treatment, and early mobilization[10].

A survey conducted in hospitals in Canada found important gaps between ideal and actual practices related to pain assessment and management, sedation, and delirium as well as difference in practices between hospitals. These findings show the need for knowledge and intervention translation to optimize symptom assessment and management, continuous measurement of key processes and outcome indicators, and the promotion of an organizational culture that supports all of these initiatives[11].

In Brazil, the incorporation of the recommended practices to manage delirium in health institutions is still incipient, which is reflected in the scarce literature of professional adherence and the most appropriate strategies to implement best practices. It is essential to analyze nurses' understanding of the importance of best practices in delirium management since this professional is a team leader in health settings and an important agent of change. The nurse's ability to manage delirium is defined as having the knowledge, skills, and attitude necessary to provide safe care for affected patients[12]. Reviewing behaviors and assuming a more positive attitude is essential to changing the delirium management culture. Thus, the guiding question of this study was: Do ICU nurses understand the best practices for the diagnosis, prevention, and treatment of delirium? Considering that nurses periodically assess, manage, and implement delirium prevention and treatment practices, this study aimed to describe their agreement regarding the assessment, diagnosis, and prevention of delirium in an ICU and verify the association of this agreement with the nurses' sociodemographic profiles.

METHOD

A cross-sectional study following the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)[13] statement conducted in the general and cardiologic ICUs of a high complexity hospital in the city of São Paulo, Brazil, between January and February 2018. The hospital follows 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[10], with delirium being managed predominantly by nurses.

The convenience sample consisted of 82 nurses working in these units, excluding those who were on vacation or on sick leave during the data collection period. The participants were invited by e-mail to participate in the study with a

link to the data collection instrument. The request to participate was resent two more times at 15-day intervals to the professionals who had not sent an acceptance or refusal response. A total of 82 nurses received the invitation by e-mail; of them, 21 were ineligible according to the exclusion criteria (Figure 1).

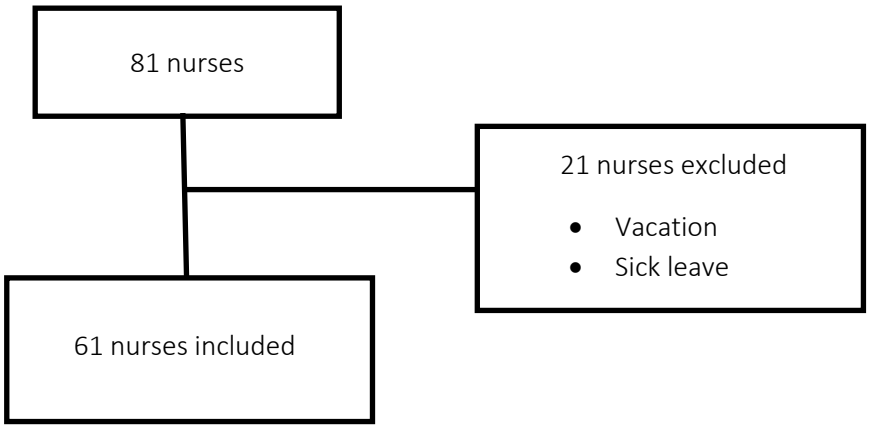
The outcome variable was the nurses' agreement with the best management practices related to the assessment and prevention of delirium. The independent variables were age, sex, professional training duration, and ICU experience duration.

The data were collected using an instrument that contained the sociodemographic data of the professionals and statements related to good practices for the management of delirium according to 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[10]. The professionals' agreement was assessed through 17 statements formulated by the researchers about assessing, diagnosing, and preventing delirium using a Likert scale of 1–5, with 1 corresponding to totally disagree, 2 to partially disagree, 3 to neither agree nor disagree, 4 to partially agree, and 5 to totally agree. The responses were classified by the researchers, with each statement having the most adequate response regarding the ideal condition recommended by the delirium management guideline. To avoid the halo effect, some statements were inverted and responses 4 and 5 of the Likert scale were classified as "high agreement," while responses 1, 2, and 3 were classified as "low agreement." The questionnaire was validated by a subject expert.

These data were analyzed by SPSS software version 21.0. Quantitative variables are presented as absolute and relative frequency and as central tendency (median) and position (25^{th} and 75^{th} percentiles) measures. Categorical variables related to the professionals' agreement were compared by the chi-square test, while quantitative variables were examined by the Mann-Whitney test. The participants' agreement with the statements are presented as absolute and relative frequencies at a 5% statistical significance level.

The study was approved by the Research Ethics Committee of the institution (number 2,504,887) and followed the recommendations of resolution 466 on human research. An Informed Consent Form was presented before the data collection as an online clarification page about the research, and the participants had access to the data collection instrument only after confirming that they agreed with the research terms.

Figure 1. Participant selection flowchart. São Paulo, 2018.



RESULTS

The normality of the quantitative variables was verified by the Shapiro-Wilk test, which guaranteed no normal distribution. The study sample consisted of 61 nurses, predominantly women, with a median age of 33 years, eight years of professional training, and four years of ICU experience, evidencing a young team (Table 1).

Table 1. Nurses' sociodemographic and professional characteristics. São Paulo, SP, 2018.

Variable	Nurses (N = 61)
Sex, n (%)	
Male	7 (11.5)
Female	54 (88.5)
Age (median, IQR)	33 (28–36)
Professional training duration, years, median (IQR)	8 (5–13)
ICU experience, years, median (IQR)	4 (2–9.3)

ICU, intensive care unit; IQR, interquartile range.

Source: research data.

A descriptive analysis of the instrument that evaluated the nurses' agreement with the delirium management guidelines showed the highest agreement with statement 9, with 96.7% of the participants agreeing that the nurse has an important role in the diagnosis and prevention of delirium. The lowest agreement (13.1%) occurred with statement 2 related to use of the Confusion Assessment Method–Intensive Care Unit (CAM-ICU) tool. The statements about the use of the assessment instrument were those with the lowest agreement among the participants (Table 2). The Fleiss' kappa score for the questionnaire responses was 0.347, demonstrating low agreement with the recommended practices.

Table 2. Distribution of the degree of agreement with the best practices in delirium management among nurses. São Paulo, SP, 2018.

Statements	Agreement with the ideal condition (%)	Position
9. The nurse has an important role in the identification and prevention of delirium; therefore, they should systematically screen for the condition.	96.7	1st
6. The CAM-ICU instrument for assessing delirium includes attention, thought organization, consciousness level, and mental state fluctuation domains.	93.4	2nd
4. The CAM-ICU is an easy-to-apply tool that takes about three minutes to complete with the patient.	91.8	3rd
7. Considering its main characteristics, attention disorder is essential in confirming the diagnosis of delirium.	86.9	4th
17. The CAM-ICU instrument should be administered at least every eight hours.	86.7	5th
8. Delirium prevention measures include the use of auditory and visual orthoses, regular visits from family and friends, strict control of the use of benzodiazepines, pain control, and reduced nighttime sleep interruption.	85.2	6th
14. Risk factors for delirium include dementia, infection, dehydration, pain, age, and laboratory changes.	83.6	7th
11- The visual attention test with pictures is part of the CAM-ICU assessment algorithm and should be used when the patient is mechanically restrained.	82.0	8th
3. The CAM-ICU should be administered when the consciousness level fluctuates and every eight hours for patients with more than one risk factor for delirium.	82.0	8th
12. Disorganized thinking signs are evaluated in the CAM-ICU through questions that should be asked when the Richmond Assessment Sedation Scale (RASS) score equals 0.	73.8	9th
1. When delirium is assessed at the bedside, a previous assessment score is necessary to identify the level of consciousness and the sedation score.	63.9	10th
13. The use of the CAM-ICU is not indicated for young patients or those in the postoperative period.	55.7	11th
16. Assessments made by the professional in the previous shift are reliable, making a new assessment unnecessary.	53.3	12th
15. There is no need for the flowchart when assessing delirium at the bedside. Best practices involve talking to the patient about themselves and asking about their current condition to predict consciousness level changes. This is enough information to determine whether they are in delirium.	28.3	13th
10. Patients on mechanical ventilation cannot be evaluated by the CAM-ICU tool.	23.0	14th
5. The CAM-ICU is a delirium assessment tool adapted from the Confusion Assessment Method, whose objective is to identify delirium in patients able to communicate.	19.7	15th
2. In some situations, I can identify delirium only by assessing the level of consciousness without using the CAM-ICU.	13.1	16th

CAM-ICU, Confusion Assessment Method Intensive Care Unit.

Source: research data.

The response analysis considered the maximum possibility of 17 agreements and the minimum of no agreement (zero). The median number of statements classified as adequate was 11 (range, 7–17) correct responses per professional, corresponding to 64.7% agreement. Thus, professionals who agreed with 12 or more questions were classified as "high agreement," while those who agreed with 11 or fewer questions were classified as "low agreement."

Table 3 shows the sociodemographic and professional characteristics of the nurses in the different groups by degree of agreement with the delirium management guidelines. There was no association between the nurses' agreement and sociodemographic characteristics.

Table 3. Sociodemographic and professional characteristics of the nurses by degree of agreement with the delirium management guidelines. São Paulo, SP, 2018.

Variable	Low agreement n = 39 (64%)	High agreement n = 22 (36%)	P value
Age, years, median (IQR)	33.0 (29.0–36.5)	32.0 (27.5–36.0)	0.088*
Sex, n (%)			
Male	5 (12.8)	2 (9.1)	0.497ł
Female	34 (87.2)	20 (90.9)	
Professional training time, years, median (IQR)	9.5 (5.0–13.0)	8.0 (5.0–12.0)	0.541*
ICU experience, years, median (IQR)	4 (1.9–9.5)	4 (2.0–9.5)	0.969*

*Mann-Whitney test; łChi-square test. ICU, intensive care unit; IQR, interquartile range.

Source: research data.

DISCUSSION

Despite the wide availability of and easy access to guidelines, evidence is lacking of their use in clinical practice. Misusing these documents[14] is a barrier in the implementation of evidence-based healthcare. Knowing the obstacles to professionals' adherence to the evidence-based practice model is essential to achieving better health outcomes. The implementation of best practices in delirium management remains suboptimal, significantly impacting healthcare quality and the patient's experience[14].

The broad implementation of delirium guidelines and with the interface of interventions in education, care, and prevention is related to better adherence by professionals, especially increased detection rates and decreased delirium duration[15]. Our study showed that 36% of the sample had high agreement with the recommended delirium management practices, but no personal or professional characteristics influenced this result. A study in Australia showed no correlation between education level and years of nursing practice with nurses' knowledge about delirium and its risk factors[16]. This aspect is crucial to the implementation of behaviors that value best practices[17].

However, another study obtained different results, reporting that professional experience duration was inversely related to the nurses' perception of the benefits of using tools to assess delirium to plan more adequate care[18]. That is, the more experience, the more the professionals use assessment methods based on intuition and clinical expertise and do not consider tools as being fundamental for delirium screening, therefore impairing efforts to comply with protocol steps and implement assertive prevention and treatment actions. This aspect is demonstrated in the present study, in which some statements related to the identification of delirium and use of the CAM-ICU tool showed low agreement among participants. One of the most important barriers reported by nurses to the implementation of delirium guidelines is the knowledge and proper use of assessment instruments[19]. Overcoming these difficulties is decisive for a wide range of best practices.

Individual aspects were listed by nurses as important for guideline adherence[19]. Less experienced nurses reported that caring for patients with delirium was more time consuming, while the more experienced nurses saw no need for assessment tools since they used their own assessment approach and experience instead[19]. This study reports that nurses who reported low agreement with good practices had longer professional training durations, corroborating the findings of the aforementioned study[19].

The statement that presented the best agreement among the participants (96.7%) was related to the nurses' role in delirium

management. This result shows that they understand their responsibility. When they realize that the care they implement has positive results, they feel motivated to follow best practices. The lack of visible results appears to have negatively impacted the nurses' motivation to follow the recommendations[20].

The statement with the lowest agreement relates to identifying delirium (13.1%), revealing that this practice is a relevant problem in ICU care and confirming the points discussed above. Although this difficulty was frequently encountered, some solutions can minimize the problem, such as a multimodal educational intervention to improve the nurses' knowledge about delirium. This reinforces the need for continuous and effective education about the diagnosis of delirium[9]. However, knowing about delirium does not translate to better skills for administering the screening instruments. In the same study, the nurses' performance using the assessment tools demonstrated no improvement after training[9], showing that using these tools is one difficulty faced by these professionals[20]. Our results showed an agreement level of less than 30% in statements related to the administration of the instruments.

Statements related to risk factors, administration algorithm, nurses' role in managing the problem, and knowledge about delirium signs presented more than 73% agreement. However, this does not guarantee adherence to best delirium management practices as seen in a quasi-experimental study of the effectiveness of delirium training, which reported that better assessment knowledge and competence did not improve adherence to best practices or screening documentation[21]. These data are relevant for demonstrating the gap between knowledge and practice that is probably associated with behavioral issues.

A median of 11 statements had high agreement in our sample, corresponding to 64.7% of the possible agreement and corroborates a study of nurses in Australia, which reported an average of 23 (64.17%)[16] correct answers to 36 questions.

The present study improves knowledge of nurses' adherence to best practices in delirium management, improving discussions on possible strategies to improve their sustainability. This aspect is important since nurses are considered the ideal professionals to conduct delirium assessments, prevention, and management actions in the ICU[17].

One limitation of this study is its sample size, which may have influenced the results. In addition, the instrument used to assess adherence to best delirium management practices did not include the dimension of non-pharmacological strategies to prevent and treat delirium.

CONCLUSION

Most nurses in this study showed low agreement with delirium management practices, with no association between sociodemographic characteristics and high agreement to best practices. There was low agreement among nurses in relation to administration of the screening tool. A sustainable health intervention is a complex phenomenon that involves the interaction of several behavioral, institutional, and educational elements. Future studies of strategies to improve the nurses' adherence to best delirium practices and their sustainability will contribute to expanding our knowledge of the subject.

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