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Multiprofessional care for delirium patients in intensive care: integrative review

Cuidados multiprofissionais para pacientes em delirium em terapia intensiva: revisão integrativa

Cuidados multiprofesionales para pacientes en delirium en la terapia intensiva: revisión integradora

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ABSTRACT

Objective: To describe the multiprofessional care for the management of critical patients in delirium in the ICU from the evidences found in the literature.

Methods: This integrative review was carried out in the period from February 1 to June 30, 2016 through searches on PubMed, Scopus, Web of Science, and CINAHL, with the following descriptors: delirium, critical care e intensive care units, which brought up 17 original papers. **Results:** A bundle and a guideline, two systematic reviews, evidence 1a and four clinical trials, evidence 1b and 2b, cohort and observational studies were found. The multiprofessional care was presented to better understand the diagnosis of delirium, sedation

observational studies were found. The multiprofessional care was presented to better understand the diagnosis of delirium, sedation pause, early mobilization, pain, agitation and delirium guidelines, psychomotor agitation, cognitive orientation, sleep promotion, environment and family participation.

Conclusion: The care for delirium is wide and not specific, which determines its multifactorial aspect.

Keywords: Delirium. Intensive care units. Critical care. Patient care team. Review.

RESILMO

Objetivo: Descrever os cuidados multiprofissionais para manejo de pacientes críticos em delirium na UTI a partir das evidências encontradas na literatura.

Métodos: Trata-se de uma revisão integrativa realizada no período de 1º de fevereiro a 30 de junho de 2016, através de busca nas bases de dados PubMed, Scopus, Web of Science e CINAHL, com os descritores delirium, critical care e intensive care units que finalizou com 17 estudos originais.

Resultados: Foram encontrados um bundle e uma diretriz, duas revisões sistemáticas, evidência 1a e quatro ensaios clínicos, evidência 1b e 2b, os demais estudos de coorte e observacionais. Os cuidados multiprofissionais foram apresentados para melhor entendimento em diagnóstico de delirium, pausa de sedação, mobilização precoce, diretrizes para dor, agitação e delirium, agitação psicomotora, orientação cognitiva, promoção do sono, ambiente e participação da família.

Conclusão: Os cuidados para delirium são abrangentes e pouco específicos, determinando seu aspecto multifatorial. **Palavras-chave:** Delírio. Unidades de terapia intensiva. Cuidados críticos. Equipe de assistência ao paciente. Revisão.

RESUMEN

Objetivo: Se objetivó describir los cuidados multiprofesionales para manejo de pacientes críticos en delirium en la UCI, a partir de las evidencias encontradas en la literatura.

Métodos: Se trata de una revisión integradora, realizada en el período del 1 de febrero al 30 de junio de 2016 a través de búsqueda en Pub-Med, Scopus, Web of Science, y CINAHL con descriptores delirium, critical care e intensive care units que finalizó con 17 estudios originales. **Resultados:** Se encontraron un bundle, una directriz, dos revisiones sistemáticos, evidencia 1a, cuatro ensayos clínicos, evidencia 1b y 2b, los demás estudios de cohorte y observacionales. Se presentaron los cuidados multiprofesionales para una mejor comprensión de diagnóstico de delirium, pausa de sedación, movilización temprana, directrices para el dolor, agitación, y delirium, agitación psicomotora, orientación cognitiva, promoción de sueño, ambiente y participación de la familia.

Conclusión: Los cuidados para el delirium son más amplios y poco específicos, determinando su aspecto multifactorial. **Palabras clave:** Delirio. Unidades de cuidados intensivos. Cuidados críticos. Grupo de atención al paciente. Revisión.

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■ INTRODUCTION

The incidence of delirium in Intensive Care Units (ICUs) is high, studies show that this neurological disorder is present in 21% to 79% of critical patients, being more frequent in patients submitted to mechanical ventilation⁽¹⁻³⁾.

Despite the high incidence, delirium continues to be under diagnosed in about 25% to 75% of patients, reaching 100% in clinical conditions characterized by the hypoactive state. This situation can be triggered due to the floating nature of the condition, associated to the lack of knowledge of the health professionals about the pathology, the low use of assessment tools and the non-registration of the phenomenon by professionals⁽⁴⁻⁵⁾.

Delirium is a disorder that triggers a major functional decline, increased morbidity, mortality, length of hospital period, time of mechanical ventilation, and costs in critically ill patients^(2,6-7). The increase in the hospitalization period is from one to 10 days, when compared to patients who did not develop delirium⁽⁸⁾. In addition, the longer duration of the dysfunction is associated with long-term cognitive impairment after the resolution of critical illness⁽⁷⁻⁹⁾.

The relationship between mortality and delirium in critically ill patients is not fully established, but within six months, the chances of dying tripled in individuals who experienced this condition. It is estimated that every day in delirium there is a 10% increase in the risk of death⁽¹⁰⁾.

Given this alarming context of delirium, this disorder should be considered a pathology of epidemiological importance, which needs to be better investigated and treated, given its difficulty of identification and the uncertainty about the interventions that are really effective in the solution of the condition⁽¹⁾.

Considering the need of a comprehensive care to patient in delirium hospitalized in the ICU, it is essential that there be a multiprofessional team to attend the demands of these patients.

Considering what has been mentioned above, this study becomes relevant considering the high incidence of delirium in the intensive care environment, the negative consequences of this disorder for the patient in the short and long term, the high institutional costs and the lack of a consensus regarding the interventions to be implemented. Therefore, it is intended to describe the multiprofessional care for the management of critical delirium patients in the ICU from the evidence found in the literature.

METHODS

This is an integrative review (IR) developed from the adaptation of the theoretical reference of Stetler's mod-

el⁽¹¹⁾, which proposes the development of guidelines for evidence-based care practice, clarifying controversial issues and implementing activities aimed at improving the quality of care.

The purposes of the IR were determined according to the guiding question and the keywords, supporting the data collection and the identification of relevant studies⁽¹¹⁻¹²⁾. The guiding question for the subject studied was: "What are the recommended multiprofessional care for critical delirium patients in the ICU described in the literature?". To search for the studies, the following databases were used: PubMed, Scopus, *Cumulative Index of Nursing and Allied Health Literature* (CINAHL) and *Web of Science*. The descriptors (DeCS) used were: *Delirium, Critical care* and *Intensive care units*, which were associated with the Boolean operator "AND".

In each database two searches were performed with the respective DeCS, *Delirium* AND *Critical care* and *Delirium* AND *Intensive care units*, in this order and with the same search parameters, being selected the last ten years of publications. The searches were carried out in the period from February 1 to June 30, 2016.

The inclusion criteria were: to be an original article; research carried out with adults. The following bundle were included *Awaken the patient daily, Breathing, Coordination, Delirium monitoring, Exercise/Early mobility* (ABCDE)⁽¹³⁾ and the guidelines for pain, agitation and delirium⁽¹⁴⁾ due to the relevance of these publications. No exclusion criteria have been foreseen.

Initially, the abstracts were read in order to determine which ones answered the guiding question and then, the reading in full of articles, bundle and guideline selected. At this stage, the care was assessed by the researchers regarding its applicability to the clinical practice. A descriptive form was developed for each selected study, which contained the title, the authors, the year of publication, the methodological design and the care developed for critical patients in delirium. Subsequently, the articles were classified according to the level of evidence according to the Oxford's classification⁽¹⁵⁾.

This study is part of a larger project, approved by the Research Ethics Committee of the Federal University of Rio Grande do Sul (1,526,221)⁽¹⁶⁾.

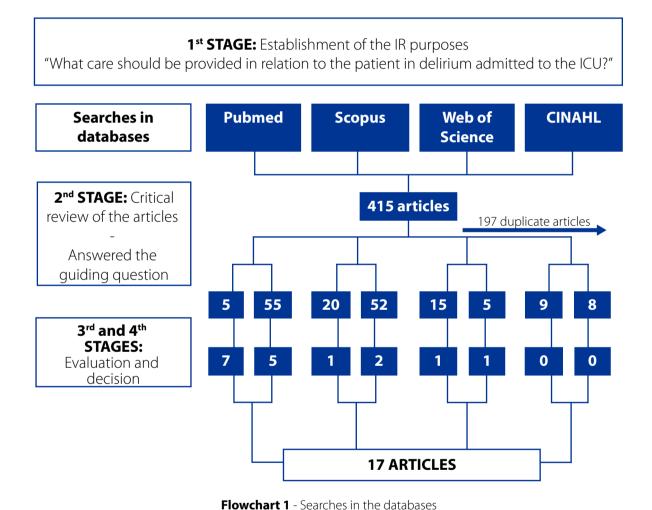
RESULTS

During the searches in the databases, 415 articles related to delirium were found, of which 197 were excluded by duplication among the databases, totaling 218 articles, which had their abstracts evaluated regarding the pro-

posed guiding question. After reading the abstracts, 201 articles were excluded because they were editorials, studies developed with another type of sample and exclusively pharmacological studies.

In the searches performed for the elaboration of the IR, it was selected: 15 original articles, the *bundle* ABCDE and the guideline for pain, agitation and delirium. Thus, the sample consisted of 17 studies (Flowchart 1), 12 of which

at *Pubmed* (*delirium* AND *critical care* = five articles; *delirium* AND *intensive care units* = seven articles), three articles at *Scopus* (*delirium* AND *critical care* = one article; *delirium* AND *intensive care units* = two articles), two articles at *Web of Science* (*delirium* AND *critical care* = one article; *delirium* AND *intensive care units* = one article) and none at CINAHL. The predominant language was English, only one article in Spanish and none in Portuguese.



Of the 17 studies selected, two systematic reviews, evidence 1a and four clinical trials, evidence 1b and 2b were found, two of which were randomized, one in progress and one was not randomized, the other studies are classified in the chart below (Chart 1).

Source: Authors

At the end of the review process, numerous articles developed by the multiprofessional team for the prevention/

treatment of delirium in critically ill patients were found in the articles selected. Among them, the diagnosis of delirium through validated scales, the performance of sedation pause, early mobilization, guidelines for care/management of pain, agitation and delirium in critically ill patients, cognitive orientation/environmental changes, sleep promotion, and family participation in the care.

Year/ Database	Authors	Methodological design	Level of evidence (Oxford)*
2016 Web of Science	Litton E, Carnegie V, Elliott R, Weeb SAR. ⁽³⁰⁾	Systematic review and Meta- analysis	1a
2016 Web of Science	Collinsworth AW, Priest EL, Campbell CR, Vasilevskis EE, Masica AL. ⁽³⁾	Systematic review	1a
2016 Scopus	Tovar LOG, Suárez LD, Muñoz FC. ⁽²⁶⁾	Prospective, pre-experimental study	2c
2015 Scopus	Moon KJ, Lee SM. ⁽²⁵⁾	Randomized clinical trial	1b
2015 Scopus	Fraser D, Spiva LA, Forman W, Hallen C. ⁽¹⁷⁾	Retrospective longitudinal study	2c
2014 PubMed	Bryczkowski SB, Lopreiato MC, Yonclas PP, Sacca JJ, Mosenthal AC. ⁽¹⁾	Prospective cohort, pre and post-intervention	2b
2014 PubMed	Patel J, Baldwin J, Bunting P, Laha S. ⁽²⁹⁾	Cohort study before and after	2b
2014 PubMed	Hata RK, Han L, Slade J, Miyahira A, Passion C, Ghows M, et al. (28)	Prospective study, pre-post intervention.	2c
2014 PubMed	Wheeler M, Crenshaw C, Gunn S. ⁽²³⁾	Case study	4
2013 PubMed	Foster J, Kelly M. ⁽¹⁸⁾	Prospective cohort	2b
2013 PubMed	Kamdar BB, King LM, Collop NA, Sakamuri S, Colantuoni E, Neufeld KJ, et al. ⁽²²⁾	Observational study, pre-post.	2c
2013 PubMed	Barr J, Fraser GL, Puntillo K, Ely EW, Gélinas C, Dasta JF, et al. ⁽¹⁴⁾	Evidence-based guidelines	Classification GRID
2012 PubMed	Van Rompaey B, Elseviers MM, Van Drom W, Fromont V, Jorens PG. (27)	Randomized clinical trial	1b
2012 PubMed	Colombo R, Corona A, Praga F, Minari C, Giannotti C, Castelli A, Raimondi F. ⁽²⁴⁾	Prospective observational study	2c
2011 PubMed	Black PP, Boore JRP, Parahoo K. ⁽³¹⁾	Non-randomized clinical trial	2b
2011 PubMed	Campbell NL, Khan BA, Farber M, Campbell T, Perkins AJ, Hui SL, et al. ⁽²¹⁾	ECR – in progress	2b
2010 PubMed	Vasilevskis EE, Ely EW, Speroff T, Pun BT, Boehm L, Dittus RS. ⁽¹³⁾	Bundle ABCDE based on evidences.	5

Chart 1- Results of the selected IR articles

Source: Authors

DISCUSSION

This review has evidenced that the care for the delirium prevention/treatment is very broad and it requires multiprofessional engagement, since delirium is a multifactorial disease that requires care corresponding to its demands. Thus, there is a need for daily assessments of the mental state of critical patients and subsequent multiprofessional interventions.

For a better discussion, the care identified in this IR was organized in: Diagnosis of delirium, sedation pause and early mobilization (*bundle* ABCDE); Guidelines for pain, agitation

^{*} Oxford's Classification (2009)

and delirium; Psychomotor agitation; Cognitive orientation; Sleep promotion; Environment and family participation.

Aiming at strengthening the multiprofessional care to the patient and the benefits for the solution of clinical disorders, the set of coordinate actions of the *bundle* ABCDE seeks to strengthen the care bases, with great relevance for the routine of the intensive care, reason that justifies its inclusion in this review.

The use of the *Confusion Assessment Method for Intensive Care Unit* (CAM-ICU) or of the *Intensive Care Delirium Screenings Checklist* (ICDSC) is strongly recommended to perform the diagnosis of delirium in critical patients⁽¹³⁾.

The delirium screening, in most of the studies evaluated, was performed through the CAM-ICU. Of the 13 clinical studies, 11 used this instrument, one used the ICDSC and another the NEECHAM *Confusion Scale*, a finding that can be justified by the ease of understanding and execution of the CAM-ICU, which can be used by different professional categories in the ICU to diagnose delirium at the bedside.

For the application of the aforementioned diagnostic tools, the assessment of the sensorium after the sedation pause is necessary, causing the awakening of the patients. The studies developed the sedation pause determining the moment of the pause at 6:30 or 7:30, performed daily by the nurse and using the *Richmond Agitation-Sedation Scale* (RASS) to assess the level of sedation of patients^(3,13-14).

In a systematic review that analyzed the efficacy, implementation, and costs of multifaceted approaches for the prevention and treatment of delirium, there was emphasis on the daily discontinuation and management of the sedation, demonstrating a significant reduction in the coma days (P<0.02)⁽¹⁷⁾.

Another highly recommended care in the studies refers to the early mobilization, understood as the proactive provision of physiotherapy in critical patients⁽¹⁷⁾. This behavior showed an improvement in the delirium, as well as other positive outcomes: decrease in the mechanical ventilation time, in the hospitalization time, and in the morbidity and mortality, optimizing the patient's clinical conditions and favoring their recovery^(3,13-14,17-18).

Corroborating the findings that demonstrated the benefits of the early mobilization in the solution of delirium, a longitudinal study with 132 patients implemented a protocol that included passive exercises in the bed, repositioning every two hours performed by health professionals or relatives and, in a subsequent stage, sitting the patient on the edge of the bed, lifting, and transferring from the bed to the chair and wandering. During the multiprofessional "round" it was decided which patients would be mobilized. The mobility group had significantly fewer days of delirium when compared to the routine care group (5.0 vs 3.6 days,

P=0.05), in addition to fewer readmissions (P < 0.001) and lower mortality (P< 0.001)⁽¹⁷⁾.

However, in a pilot cohort with 32 patients submitted to a care protocol with early mobilization, sedation pause, sleep promotion, sensory stimulation and musical preference for two months showed that there was little difference in the delirium proportion before and after the intervention (28% vs 31%). However, 24% of the evaluations showed that the lack of data interfered with the validity of the comparison⁽¹⁸⁾. Because it is a pilot study, the results cannot be definitively considered yet. In addition, the findings of the Fraser et al. study(17) are considered more robust when it comes to the early mobilization for the treatment of delirium. The studies that implemented the early mobilization in the care of critical patients in delirium showed strength of evidence 1a, 2b and 2c and demonstrated an improvement in the clinical condition of delirium, thus being a recommended care for the clinical practice.

And in order to direct the care behaviors for better results, the guidelines for pain, agitation and delirium management in critical patients were elaborated through a multi-disciplinary and multi-institutional task force of the *American College of Critical Care Medicine* in 2013. Several revisions were made, and the recommendations had the strength of evidence established according to the GRID classification⁽¹⁴⁾.

In the treatment of pain, the guidelines emphasized the need for routine assessments using the validated instruments – *Critical Care Pain Observation Tool* (CPOT) and the *Behavioral Pain Scale* (BSP)– being the first an observational scale of easy execution in intubated patients or not, and the second applied only to patients under mechanical ventilation. They also bring recommendations of different analgesic conducts^(14,19-20).

The CPOT has not been validated in Brazil yet, but it is widely used in clinical practice. Its application encompasses the assessment of facial expression, body movements, compliance with the mechanical ventilation or verbalization in non-intubated patients and muscle tension⁽²⁰⁾. The BSP was validated for the Brazilian Portuguese, it also assesses facial expression, upper limb movements and the adaptation to mechanical ventilation⁽¹⁹⁾. Of these two scales, the CPOT seems to be the most well-known and used in the Intensive Care environment, probably due to the possibility of application in intubated patients or not, since both are easy to perform.

In the care of critical patients, it is important to consider that the pain stimuli can trigger psychomotor agitation, potentiating the delirium condition. Thus, the pain assessment and management require essential care in the Intensive Care environment.

The guidelines for pain, agitation and delirium do not recommend the use of a pharmacological protocol for the treatment and prevention of delirium, since pharmacological evidences in reducing the incidence of this neurological disorder has not yet shown definitive results^(1,14,21-22).

Contrary to the guidelines, five studies (evidences 2b, 2c and 4) have developed non-pharmacological care associated with the antipsychotic use. All of them used haloperidol, three associated an atypical antipsychotic (olanzapine, risperidone or quetiapine) in the presence of elongated QT in the patients. Of these, only one study described the dose of haloperidol used: 0.5 to 1mg every 8 hours orally or parenterally⁽²¹⁾ the others reported only the use of a "low dose" (1,22-24).

A cohort of 123 ICU patients had the objective of evaluating the efficacy of a protocol with non-pharmacological and pharmacological interventions for delirium. It was used a low dose of haloperidol associated with measures to promote sleep, health education for patients and the family, and limitation of medications associated with delirium. The post-intervention group experienced delirium in the same proportion as the pre-intervention group (P=0.26). However, there was a significant reduction in the duration of the delirium, indicated by the increase in the delirium free days (pre 24 days *vs* post 27 days, P=0.002)⁽¹⁾. Although the solution of the neurological disorder has not been demonstrated, the fact of reducing the days in delirium already brings benefits to the patients.

In the clinical practice, the psychomotor agitation usually requires pharmacological management due to the risk of adverse events, such as device traction, extubation or even patient's fall. The multiprofessional team needs a quiet, alert and collaborative patient to perform all the pertinent interventions for the prevention and treatment of delirium, such as the early mobilization, family interaction and reorientation.

The interventions developed for the cognitive orientation with environmental modifications have also been explored in the studies and guidelines. They were developed through the involvement of the multidisciplinary team, in order to promote patient's orientation in regarding time and space, as well as providing information about the reality and the use of personal objects.

A cohort study with 314 patients implemented reorientation strategies, such as calling the patient by his name, providing information about the hospital, about his illness and length of hospitalization, encouraging him to remember his relatives' names, as well as the date and time. Environmental, visual and acoustic stimulation was performed using clocks, books, newspapers and listening to musical preference. The use of antipsychotics was associated. The results showed

that the proper reorientation strategy was related to the lower occurrence of delirium in the ICU between the observational and interventional stage (35.5% vs 22.5%, P<0.02)⁽²⁴⁾.

Different from these data, an ECR with 134 critical patients divided into group intervention and control tested the efficacy of the environmental interventions, cognitive orientation and early therapy: monitoring the risk factors for delirium. The interventions consisted of reorientation care, as to time and space with the use of clocks and calendars at the bedside. Glasses and hearing devices were made available to ensure the sensory ability; indirect light was promoted to improve sleep at night, and family members bring personal items from patients was allowed. However, in this case, the results showed no significant difference between the control and intervention groups regarding the incidence of delirium in the univariate analyzes (OR: 0.5 (IC: 0.22-1.14, P=0.1)) and multivariate (OR: 0.52 (IC: 0.23-1.21, P=0.13))

The association of a pharmacological intervention with non-pharmacological care seems to help improve the outcomes, since the study that included the use of antipsychotics⁽²⁴⁾ presented more favorable results to treat delirium. It is important to highlight that the methodological delineations are disparate-evidences 1b and 2c - as well as the sample size. The findings cannot be disregarded, but rather used with caution while trying to solve or soften the signs and symptoms of the clinical condition of delirium in the ICU.

Likewise, the sleep promotion in critically ill patients should be better understood in the Intensive Care, since during the hospitalization the maintenance of nocturnal sleep is impaired due to the physical structure and hospital organization, deregulating the circadian cycle and, possibly, impairing the patient's attention and orientation.

Sleep impairment was addressed as a trigger for neurological dysfunctions, which may potentiate the development of delirium. However, the relationship between sleep, sound and delirium has not been properly established yet⁽²⁶⁻²⁷⁾.

The studies that addressed sleep maintenance interventions established a period for the patient to sleep, which ranged from four to eight hours, in which procedures, routines, examinations, and medication administration were reorganized as much as possible except in urgent care^(18,27-28)

An ECR with 136 patients used earplugs and eye masks from 10 p.m. to 6 a.m. in order to reduce the noise and illumination in the ICU and optimize the nighttime sleep. The intervention group had 19% of delirium and the control group 20%, which did not present a statistically significant difference (P=0.006). Nevertheless, in the intervention group, the patients had fewer cognitive disturbances (P=0.006) referring to the category of mild confusion, demonstrated by the NEECHAM scale⁽²⁷⁾.

Another almost-experimental study with 300 patients developed a protocol for promoting sleep with the use of earplugs and eye masks associated with environmental modifications such as darkening the room, reducing noise, and providing soft music. It also included the use of haloperidol or atypical antipsychotic. The results showed a significant improvement in the incidence of delirium when compared to the pre and post-intervention (69% vs 49%, P=0.02) and delirium free days (272 days, 43% vs 399 days, 48%, P=0.03)⁽²²⁾.

The studies that addressed care for the promotion of sleep are still incipient and their results do not converge much⁽²²⁻²⁹⁾. However, it is important to observe that the association of multiple interventions, including the administration of antipsychotics, seems to favor the solution of delirium, but clinical studies with more robust designs are still necessary.

Corroborating the positive results, a systematic review with nine studies evaluated the effectiveness of the use of earplugs, eye masks and noise reduction as strategies for the treatment of delirium in the ICU. Of these, only two studies evaluated the impact of the use of these devices on the delirium load and the results showed a significant improvement in the reduction of this disorder ($P \le 0.04$). The authors concluded that the use of earplugs alone or as part of a care package improved the sleep maintenance and was associated with a significant reduction in delirium. However, the ideal strategies for sleep maintenance have not been sufficiently studied⁽³⁰⁾.

All the studies that addressed the sleep promotion (evidence 1a and 1b) showed results of reduction in the incidence and/or duration of delirium and improvement of patients' clinical conditions. Such care can be incorporated into the clinical practice, since it is easy to perform, has a low cost and offers no harm or risk to the patient.

In addition, in the search for the best way to care for critically ill patients in delirium, the participation of family members seems to play a relevant role in the development of care. In this perspective, the family should be inserted in the Intensive Care environment gradually and properly guided by the multiprofessional team.

A clinical trial with 138 patients reinforced the need for prior family counseling. A flyer containing information on delirium and ways of guiding and assisting in the care of the patients was prepared; it was given to the families, and verbal information was provided. The care developed was: to make visits flexible, to encourage verbal and physical interaction, and to organize the demands of the unit. The protocol was implemented for 14 days. The ICDSC was applied every day and the psychological recovery was measured by means of the *The Sickness Impact Pro-*

file, assessing the physical, psychosocial and emotional activities after the discharge to the ward. No significant statistical differences were found between the groups for incidence of delirium (P=0.176). However, it was observed that investing in the intervention with family members during the critical moment provided long-term benefits to the patient, since the family was able to perform the care maintenance after the acute phase⁽³¹⁾.

The introduction of the family into the ICU care is something that needs to be improved in order to develop more qualified and humanized care. The family participation brings some challenges to the multiprofessional team, which must be overcome in order to benefit patients. Thus, care protocols should be structured considering the presence of family members in the development of care in order to prevent and treat delirium.

The standardization of measures from the construction of protocols and/or guidelines tends to qualify the care practice based on scientific evidence, out of the limbo of empiricism. In addition, the standardization of care tends to minimize subjective assessments by health professionals and to optimize the therapeutic outcomes of critically ill patients in delirium.

CONCLUSION

The care identified from this study was related to the diagnosis of delirium, sedation pause, early mobilization, analgesic management, psychomotor agitation treatment, cognitive orientation, sleep promotion and family participation. From the development of these interventions it is expected to qualify the care provided and improve the clinical outcomes of critical patients, among them delirium.

The care implemented for the treatment of delirium is not very specific and incipient, since the causes are not yet fully known, determining its multifactorial aspect. However, all the improvements found regarding the patients' clinical condition should be considered and valued, since not only the presence but also the duration of delirium can determine worse long-term results.

In the development of this review, there were some limitations, since it was not exclusively composed by pharmacological studies, and the subject studied addressed the care provided by the multiprofessional team. It is also worth highlighting that the use of medication in the management of delirium still does not have proven benefits.

More researches are necessary in the Intensive Care environment to determine more precisely which pharmacological and non-pharmacological care is effective in treating delirium.

REFERENCES

- Bryczkowski SB, Lopreiato MC, Yonclas PP, Sacca JJ, Mosenthal AC. Delirium prevention program in the surgical intensive care unit improved the outcomes of older adults. J Surg Res. 2014 Jul;190(1):280-8.
- 2. Hsieh SJ, Soto GJ, Hope AA, Ponea A, Gong MN. The association between acute respiratory distress syndrome, delirium, and in-hospital mortality in intensive care unit patients. Am J Respir Crit Care Med. 2015 Jan;191(1):71-8.
- Collinsworth AW, Priest EL, Campbell CR, Vasilevskis EE, Masica AL. A review of multifaceted care approaches for the prevention and mitigation of delirium in intensive care units. J Int Care Med. 2016 Feb; 31(2):127-41.
- 4. Sánchez JC, González MI, Gutiérrez, JC. Delírium en pacientes mayores de 60 años en un hospital público de tercer nivel en la ciudad de Pereira (Colombia): subdiagnóstico y subregistro. Rev Colomb Psiquiatr. 2013 Jun;42(2):191–7.
- Tropea J, Slee JA, Brand CA, Gray L, Snell T. Clinical practice guidelines for the management of delirium in older people in Australia. Australas J Ageing. 2008 Sep;27(3):150-6.
- 6. Shehabi Y, Riker RR, Bokesch PM, Wisemandle W, Shintani A, Ely EW. Delirium duration and mortality in lightly sedated, mechanically ventilated intensive care unit patients. Crit Care Med. 2010 Dec;38(12):2311–8.
- 7. Brummel NE, Jackson JC, Torres RE, Shintani AK, Ely EW, Girard TD. Does duration of ICU delirium predict long-term functional impairment? Am J Respir Crit Care Med. 2011;183:A2653.
- 8. Fan E, Shahid S, Kondreddi VP, Bienvenu OJ, Mendez-Tellez PA, Pronovost PJ, et al. Informed consent in the critically ill: a two-step approach incorporating delirium screening. Crit Care Med. 2008 Jan;36(1):94-9.
- Girard TD, Jackson JC, Pandharipande PP, Pun BT, Thompson JL, Shintani AK, et al. Delirium as a predictor of long-term cognitive impairment in survivors of critical illness. Crit Care Med. 2010 Jul;38(7):1513-20.
- Pisani MA, Kong SY, Kasl SV, Murphy TE, Araujo KL, Van Ness PH. Days of delirium are associated with 1-year mortality in an older intensive care unit population. Am J Respir Crit Care Med. 2009 Dec;180(11):1092-7.
- 11. Stetler BC. Utilization-focused integrative reviews in a nursing service. Appl Nurs Res. 1998 Nov;11(4):195–206.
- 12. Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRAD. Revisão integrativa: conceitos e métodos utilizados na enfermagem. Rev Esc Enferm USP. 2014 abr;48(2)335-45.
- 13. Vasilevskis EE, Ely EW, Speroff T, Pun BT, Boehm L, Dittus RS. Reducing iatrogenic risks: ICU acquired delirium and weakness-crossing the quality chasm. Chest. 2010 Nov;138(5):1224–33.
- 14. Barr J, Fraser GL, Puntillo K, Ely EW, Gélinas C, Dasta JF, et al. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit: executive summary. Am J Health Syst Pharm. 2013 Jan;70(1):53–8.
- 15. Centre for Evidence based Medicine (UK). Levels of evidence [Internet]. Oxford: 2009 [Update 2010 Jul, cited 2016 Jun 10]. Available from: http://www.cebm.net/index.aspx?o=1025.

- Souza TL. Confusão aguda relacionada ao delirium: desenvolvimento e validação de protocolo multiprofissional de cuidados para paciente crítico [dissertação]. Porto Alegre (RS): Universidade Federal do Rio Grande do Sul; 2017.
- 17. Fraser D, Spiva LA, Forman W, Hallen C. Original research: implementation of an early mobility program in an ICU. Am J Nurs. 2015 Dec;115(12):49-58.
- 18. Foster J, Kelly M. A pilot study to test the feasibility of a nonpharmacologic intervention for the prevention of delirium in the medical intensive care unit. Clin Nurse Spec. 2013 Sep;27(5):231–8.
- 19. Batalha LM, Figueiredo AM, Marques M, Bizarro V. Adaptação cultural e propriedades psicométricas da versão Portuguesa da escala Behavioral Pain Scale Intubated Patient (BPSIP/PT). Rev Enf Ref. 2013 Mar;9(3):7-16.
- 20. Gélinas C, Fillion L, Puntillo KA, Viens C, Fortier M. Validation of the critical care pain observation tool in adult patients. Am J Crit Care. 2006 Jul;15(4):420-7.
- 21. Campbell NL, Khan BA, Farber M, Campbell T, Perkins AJ, Hui SL, et al. Improving delirium care in the intensive care unit: the design of a pragmatic study. Trials. 2011 Jun;12:139.
- 22. Kamdar BB, King LM, Collop NA, Sakamuri S, Colantuoni E, Neufeld KJ, et al. The effect of a quality improvement intervention on perceived sleep quality and cognition in a medical ICU. Crit Care Med. 2013 Mar; 41(3):800–9.
- 23. Wheeler M, Crenshaw C, Gunn S. Incidence and prevention of delirium in critical care patients. Crit Care Nurs Clin N Am. 2014 Dec;26(4):461–8.
- 24. Colombo R, Corona A, Praga F, Minari C, Giannotti C, Castelli A, et al. A reorientation strategy for reducing delirium in the critically ill:results of an interventional study. Minerva Anestesiol. 2012 Sep;78(9):1026-33.
- 25. Moon KJ, Lee SM. The effects of a tailored intensive care unit delirium prevention protocol: a randomized controlled trial. Int J Nurs Stud. 2015 Sep;52(9):1423-32.
- 26. Tovar LOG, Suárez LD, Muñoz FC. Cuidados de enfermería basados en evidencia y modelo de Betty Neuman, para controlar estresores del entorno que pueden ocasionar delirium en unidad de cuidados intensivos. Enferm Glob. 2016;15(1):49-63.
- 27. Van Rompaey B, Elseviers MM, Van Drom W, Fromont V, Jorens PG. The effect of earplugs during the night on the onset of delirium and sleep perception: a randomized controlled trial in intensive care patients. Crit Care. 2012 May;16(3):R73.
- 28. Hata RK, Han L, Slade J, Miyahira A, Passion C, Ghows M, et al. Promoting sleep in the adult surgical intensive care unit patients to prevent delirium. Nurs Clin North Am. 2014 Sep;49(3):383–97.
- 29. Patel J, Baldwin J, Bunting P, Laha S. The effect of a multicomponent multidisciplinary bundle of interventions on sleep and delirium in medical and surgical intensive care patients. Anaesthesia. 2014 Jun; 69(6):540–9.
- 30. Litton E, Carnegie V, Elliott R, Weeb SA. The efficacy of earplugs as a sleep hygiene strategy for reducing delirium in the ICU: asystematic review and meta-analysis. Crit Care Med. 2016 May;44(5):992–9.
- 31. Black P, Boore JR, Parahoo K. The effect of nurse-facilitated family participation in the psychological care of the critically ill patient. Am J Nurs. 2011 May;67(5):1091–101.

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