



The rationale of flexible ICU visiting hours for delirium prevention

Cassiano Teixeira^{1,2,3}, Regis Goulart Rosa^{1,3}

¹Department of Critical Care, Hospital Moinhos de Vento, Porto Alegre, RS, Brazil; ²School of Medicine, ³Graduation Program in Rehabilitation Sciences, Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSIPA), Porto Alegre, RS, Brazil

Correspondence to: Cassiano Teixeira, MD, PhD. Intensive Care Unit, Hospital Moinhos de Vento, Rua Ramiro Barcelos, 910, 3o andar, 90035-001, Porto Alegre, RS, Brazil. Email: cassiano.rush@gmail.com.

Provenance: This is an invited Editorial commissioned by the Executive Editor Dr. Kai Zhang (Zhejiang University School of Medicine, Hangzhou, China).

Comment on: Westphal GA, Moerschberger MS, Vollmann DD, *et al.* Effect of a 24-h extended visiting policy on delirium in critically ill patients. *Intensive Care Med* 2018;44:968-70.

Received: 16 October 2018; Accepted: 17 October 2018; Published: 22 October 2018.

doi: 10.21037/jeccm.2018.10.07

View this article at: <http://dx.doi.org/10.21037/jeccm.2018.10.07>

Delirium is a frequent and severe form of acute brain dysfunction that occurs in the critically ill (1). It currently represents a major challenge for critical care professionals as it is associated with increased mortality, longer intensive care unit (ICU) and hospital stay, increased risk of long-term cognitive impairment, and higher costs of care (2,3). Disappointingly, pharmacologic interventions have a limited role in the prevention and treatment of delirium (4). Conversely, many non-pharmacologic interventions such as reorientation activities, cognitive stimulation, early mobilization, sleep hygiene, and flexibilization of family visits have gained increasing attention due to its low cost and potential to prevent or limit delirium among ICU patients (5,6).

Recently, Westphal *et al.* evaluated the effects of a 24-h open visiting policy on the occurrence of ICU delirium in a before-and-after study (7). The authors compared the occurrence of delirium in 248 consecutive patients admitted to a single ICU from March 2015 to February 2016, when family members could choose for staying at the bedside of critically ill patients for up to 6 h per day instead of the standard regimen of four half-hour visits per day, with that of 268 patients admitted to the ICU from March 2016 to February 2017, when family members could choose between an open visiting policy that allowed the presence of family members for up to 24 hours per day at the bedside of critically ill patients or the standard regimen. The authors showed that the adherence of family members to the flexible visitation increased in the second study period

in all shifts (morning, afternoon, and night, $P < 0.001$), while the cumulative incidence of delirium decreased from 12.1% to 6.7% [odds ratio (OR), 0.52; 95% confidence interval (CI), 0.28–0.96; $P = 0.03$]. Interestingly, the 24-h open visiting policy was the only variable associated with lower occurrence of delirium in a multivariate regression analysis with adjustment for potential confounders (OR 0.36; 95% CI, 0.17–0.74; $P = 0.005$).

The important findings of Westphal *et al.* concerning the association between flexible ICU visiting hours and reduced incidence of ICU delirium are consistent with those observed in two before-and-after studies and in one recent systematic review (8-10). Although the precise mechanism for delirium prevention remains unknown, multiple factors are thought to mediate the relationship between flexible ICU visiting policies and reduced incidence of delirium. First, flexible ICU visiting hours may increase the opportunities for improvement in patient-centered care (11,12). In this context, the higher interaction between family members and ICU professionals, may allow a better sharing of the decision-making process, minimizing the patient exposure to modifiable risk factors for delirium, such as unnecessary sedation, benzodiazepines, and blood transfusions (5). Second, it is plausible to assume that flexible visiting policies may promote the family engagement in non-pharmacologic interventions for delirium prevention, such as pain control, reorientation activities, establishment of a familiar environment, prevention of sensory deprivation, cognitive

stimulation, early mobilization, and sleep hygiene (13). Interestingly, these actions have been described as part of multicomponent non-pharmacologic interventions that demonstrated to be associated with reduced incidence of delirium in several studies (14,15).

Notably, more studies like the study of Westphal *et al.* are needed to understand the best way to implement and improve patient- and family-centered care interventions for delirium prevention. Many evidence gaps regarding the association between flexible ICU visiting hours and delirium prevention still exist: (I) Is a pragmatic implementation of flexible visiting policies for delirium prevention feasible and effective in a broader scenario? (II) Is there a dose-response relationship between the length of family visits and delirium prevention? (III) How distinct sociocultural and ICU workload contexts interact with flexible ICU visiting hours and its supposed benefits in delirium prevention? (IV) Are there any safety concerns regarding a large-scale implementation of flexible ICU visiting hours, such as ICU-acquired infections and staff burnout?

Unfortunately, studies evaluating role of patient- and family-centered care in the prevention of delirium are scarce, and many of the recommended strategies in this field are based on common sense rather than on high-quality randomized trials. In this regard, a large cluster-randomized crossover trial has been conducted in mixed adult ICUs in Brazil to explore the effectiveness and safety of flexible ICU visiting hours for delirium prevention, as well to analyze its potential effects on family members and ICU professionals (16).

In conclusion, flexible ICU visiting policies for delirium prevention is a topic of broad and current interest in critical care medicine, given its potential to improve care and demand changes in the organizational and structural characteristics of ICUs.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

1. Reade MC, Finfer S. Sedation and delirium in the

- intensive care unit. *N Engl J Med* 2014;370:444-54.
2. Salluh JI, Wang H, Schneider EB, et al. Outcome of delirium in critically ill patients: systematic review and meta-analysis. *BMJ* 2015;350:h2538.
3. van den Boogaard M, Schoonhoven L, Evers AW, et al. Delirium in critically ill patients: impact on long-term health-related quality of life and cognitive functioning. *Crit Care Med* 2012;40:112-8.
4. Serafim RB, Bozza FA, Soares M, et al. Pharmacologic prevention and treatment of delirium in intensive care patients: A systematic review. *J Crit Care* 2015;30:799-807.
5. Devlin JW, Skrobik Y, Gélinas C, et al. Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU. *Crit Care Med* 2018;46:e825-73.
6. Steinberg DI. Review: Flexible vs restrictive ICU visiting policies reduce delirium and anxiety severity in patients. *Ann Intern Med* 2018;169:JC23.
7. Westphal GA, Moerschberger MS, Vollmann DD, et al. Effect of a 24-h extended visiting policy on delirium in critically ill patients. *Intensive Care Med* 2018;44:968-70.
8. Rosa RG, Tonietto TF, da Silva DB, et al. Effectiveness and Safety of an Extended ICU Visitation Model for Delirium Prevention: A Before and After Study. *Crit Care Med* 2017;45:1660-7.
9. Eghbali-Babadi M, Shokrollahi N, Mehrabi T. Effect of Family-Patient Communication on the Incidence of Delirium in Hospitalized Patients in Cardiovascular Surgery ICU. *Iran J Nurs Midwifery Res* 2017;22:327-31.
10. Nassar Junior AP, Besen BAMP, Robinson CC, et al. Flexible Versus Restrictive Visiting Policies in ICUs: A Systematic Review and Meta-Analysis. *Crit Care Med* 2018;46:1175-80.
11. Gonzalez CE, Carroll DL, Elliott JS, et al. Visiting preferences of patients in the intensive care unit and in a complex care medical unit. *Am J Crit Care* 2004;13:194-8.
12. Goldfarb MJ, Bibas L, Bartlett V, et al. Outcomes of Patient- and Family-Centered Care Interventions in the ICU: A Systematic Review and Meta-Analysis. *Crit Care Med* 2017;45:1751-61.
13. Burns KEA, Misak C, Herridge M, et al. Patient and Family Partnership Committee of the Canadian Critical Care Trials Group.. Patient and Family Engagement in the ICU. Untapped Opportunities and Underrecognized Challenges. *Am J Respir Crit Care Med* 2018;198:310-9.
14. Brummel NE, Girard TD. Preventing delirium in the intensive care unit. *Crit Care Clin* 2013;29:51-65.

15. Siddiqi N, Harrison JK, Clegg A, et al. Interventions for preventing delirium in hospitalised non-ICU patients. *Cochrane Database Syst Rev* 2016;3:CD005563.
16. Rosa RG, Falavigna M, Robinson CC, et al. Study

protocol to assess the effectiveness and safety of a flexible family visitation model for delirium prevention in adult intensive care units: a cluster-randomised, crossover trial (The ICU Visits Study). *BMJ Open* 2018;8:e021193.

doi: 10.21037/jeccm.2018.10.07

Cite this article as: Teixeira C, Rosa RG. The rationale of flexible ICU visiting hours for delirium prevention. *J Emerg Crit Care Med* 2018;2:81.