



Can we prevent chronic posttraumatic stress disorder in caregivers of critical care patients?

Ana-Maria Vranceanu^{1,2,3}

¹Integrated Brain Health Clinical and Research Program, Harvard Medical School, Boston, MA, USA; ²Department of Psychiatry, ³McCance Center for Brain Health, Massachusetts General Hospital, Boston, MA, USA

Correspondence to: Ana-Maria Vranceanu, PhD. Integrated Brain Health Clinical and Research Program, Harvard Medical School One Bowdoin Square, 1st Floor, Boston, MA, 02114, USA. Email: avranceanu@mgh.harvard.edu.

Response to: Choi J, Tate JA. Risk of post-traumatic stress disorder in family caregivers of neuroscience intensive care unit patients. *J Emerg Crit Care Med* 2018;2:75.

Received: 26 December 2018; Accepted: 29 December 2018; Published: 10 January 2019.

doi: 10.21037/jecm.2019.01.02

View this article at: <http://dx.doi.org/10.21037/jecm.2019.01.02>

In an editorial entitled “Risk of post-traumatic stress disorder in family caregivers of neuroscience intensive care unit patients” Choi and Tate (2018) (1) discussed family caregivers’ challenges associated with caring for critical care patients, their risk for chronic emotional distress, and need for psychosocial interventions focused on preventing chronic emotional distress. The editorial highlights a recent article led by Choi *et al.* (2018) (2) which found, in a prospective study of caregivers of intensive care unit (ICU) patients followed from hospitalization to 3 and 6 months later, that posttraumatic stress disorder (PTSD) remained generally stable over time, and early PTSD was the strongest predictor of PTSD at a future time point.

Both Choi and Tate (2018) (1) and Choi *et al.* (2018) (2) note that one of the challenges in developing and implementing interventions focused on preventing chronic PTSD in family caregivers of critical care patients is that we currently do not have a reliable method to identify among all caregivers, who will make good adjustment and who will develop chronic PTSD. Although the Choi *et al.* (2018), paper showed a good prediction model for chronic PTSD based on PTSD at hospitalization with the majority of patients who screened in at hospitalization remaining stable over time (N=12), there were 3 caregivers who developed PTSD at later time points and 3 who spontaneously recovered.

Identification of individuals at risk for PTSD is a common problem within the larger PTSD literature. Neither biological markers nor self-report measures have yet been able to accurately identify who will develop

PTSD among all traumatized individuals. Metabolomics—the scientific study of biologically active molecules within cells—which can provide a “snapshot” of cellular physiology, represents a novel yet unexplored opportunity to reliably identify accurate biomarkers of risk for PTSD. Caregivers of critical care patients are the ideal population for the study of metabolomics as reliable biomarkers of risk for PTSD because they develop PTSD at similar rates as individuals who undergo other types of trauma, yet they do not have the physical injury that can affect the biological pathways and thus confound results. Identifying active biological molecules predictive of risk for PTSD in caregivers has important implications not only for caregiver specific interventions, but also for the larger PTSD community.

Consistent with recommendations from Choi *et al.* (2018) (2), and until a reliable biomarker for risk for PTSD is identified, selecting caregivers who screen in for clinically significant symptoms of PTSD at hospitalization provides a good enough method for determining risk. Although in Choi *et al.*’s research (2), resiliency factors (e.g., coping, mindfulness, self-efficacy and interpersonal bond) at hospitalization were not predictive of PTSD at a future time, it is important to mention that crosssectionally at hospitalization, there were strong associations between resiliency factors and PTSD. This finding suggests that early, in hospital psychosocial interventions focused on increasing mindfulness, coping and interpersonal support are warranted for caregivers who screen in for clinically significant PTSD. By starting treatment early there is

potential to decrease risk for chronic PTSD. An added layer to psychosocial interventions for caregivers is prior research showing that caregivers' emotional function is interrelated with that of the patients they care for. Indeed, research on critical care patients shows similar rates of emotional distress in patients and caregivers (3), independent of the severity of patient's injury. Cross-sectional (3) and emerging prospective research (4) with dyads of patients admitted to the Neuro-ICU and their caregivers is showing this dyadic interdependence. The dyadic framework is supported by systematic reviews (5,6) which show that the best way to decrease emotional distress in either and both patients and caregivers is through dyadic interventions that address improved coping and interpersonal communication at the dyadic level. Based on this evidence, McCurley *et al.* (7) have conducted qualitative interviews with N=24 dyads of patients admitted to the ICU with a stroke and their family caregivers, to identify their needs and preferences for a mind body resiliency program focused on prevention of chronic emotional distress. Using this information, Meyers *et al.* (8) developed a dyadic intervention called "Recovering Together" which starts at hospitalization with 2 in person sessions and continues with 4 sessions via secure live video after discharge. A strength of this program is that it is flexible and allows for tailoring, such that after the first 2 uniform in person sessions, future session topics are selected from a total of 6 potential modules based on the individual needs of each dyad. In a pilot randomized controlled trial, Recovering Together was shown to have good feasibility, acceptability and demonstrated (depression, anxiety and/or PTSD) within group improvement in emotional functioning and coping, while the minimally enhanced controlled group showed stable or increased emotional distress over time (9).

Dyadic interventions, while promising, cannot be uniformly applied within critical care settings. Indeed, many times patients are intubated or have cognitive deficits that prevent them from participating. While it is still important to include patients into interventions as soon as they become able, many times deficits are permanent or patients die. In such instances, caregiver only interventions focused on supporting them in making challenging decisions, or aiding with the grieving process are important and should start as early as possible to minimize risk for chronic distress.

The past decade of research clearly shows that chronic emotional distress is common in patients and families after critical care injury. While not all patients and caregivers will experience chronic emotional distress including PTSD, those who do will experience increased risk of morbidity and

mortality. Although we do not fully know how to reliably identify individuals at risk for chronic emotional distress, within the critical care population it appears that addressing early emotional distress through resiliency interventions, within a dyadic (patient and caregivers together) format, when possible, may be an efficient and effective strategy to promote emotional recovery in caregivers, and emotional and physical recovery in patients. Prior research on the feasibility and efficacy of such interventions is encouraging. The next decade will likely lead to advances in both biomarker and psychosocial research to improve outcomes in critical care patients and their loved ones.

Acknowledgments

Funding: The work was supported by an R21 grant from the National Institute of Nursing Research [1R21NR017979-01A1] to Ana-Maria Vranceanu, and by the Henry and Allison McCance Center for Brain Health.

Footnotes

Conflicts of interest: The author has no conflicts of interest to declare.

References

1. Choi J, Tate JA. Risk of post-traumatic stress disorder in family caregivers of neuroscience intensive care unit patients. *J Emerg Crit Care Med* 2018;2:75.
2. Choi KW, Shaffer KM, Zale EL, et al. Early Risk and Resiliency Factors Predict Chronic Posttraumatic Stress Disorder in Caregivers of Patients Admitted to a Neuroscience ICU. *Crit Care Med* 2018;46:713-9.
3. Shaffer KM, Riklin E, Jacobs JM, et al. Mindfulness and Coping Are Inversely Related to Psychiatric Symptoms in Patients and Informal Caregivers in the Neuroscience ICU: Implications for Clinical Care. *Crit Care Med* 2016;44:2028-36.
4. Meyers E, Shaffer KM, Porsius J, et al. Distress and resiliency in dyads of patients in the Neuro-ICU and their informal caregivers: A prospective investigation. In: SBM's 40th Annual Meeting & Scientific Sessions. Washington, DC: 2019. [Epub ahead of print].
5. Bakas T, Austin JK, Habermann B, et al. Telephone Assessment and Skill-Building Kit for Stroke Caregivers: A Randomized Controlled Clinical Trial. *Stroke* 2015;46:3478-87.

6. Bakas T, McCarthy M, Miller ET. Update on the State of the Evidence for Stroke Family Caregiver and Dyad Interventions. *Stroke* 2017;48:e122-5.
7. McCurley JL, Funes CJ, Zale EL, et al. Preventing Chronic Emotional Distress in Stroke Survivors and Their Informal Caregivers. *Neurocrit Care* 2018. [Epub ahead of print].
8. Meyers E, McCurley J, Rosand J, et al. Building resiliency in dyads of patients admitted to the Neuroscience Intensive Care Unit and their family caregivers: Lessons learned from William and Laura. *Cogn Behav Pract*, Submitted. [Epub ahead of print].
9. Lester E, Lin A, McCurley J, et al. Preventing chronic emotional distress in patients with stroke and their informal caregivers; A pilot RCT. In: *SBM's 40th Annual Meeting & Scientific Sessions*. Washington, DC: 2019. [Epub ahead of print].

doi: 10.21037/jeccm.2019.01.02

Cite this article as: Vranceanu AM. Can we prevent chronic posttraumatic stress disorder in caregivers of critical care patients? *J Emerg Crit Care Med* 2019;3:2.