Prediction of Emotional Distress After Critical Illness Is Vital For Prevention

O. Joseph Bienvenu, MD, PhD
Baltimore, MD

Psychiatric morbidity is an important adverse outcome after critical illness. Results from recent systematic reviews indicate that clinically significant symptoms of posttraumatic stress disorder, depression, and nonspecific anxiety occur in roughly 20%, 30%, and 35% of critical illness survivors, respectively.1-3 Unfortunately, it remains unclear how to prevent this long-term morbidity with ICU psychological interventions, ICU diaries, ICU follow-up clinics, support groups, telephonic or computer-based cognitive-behavioral therapy-informed coping interventions, or even virtual reality-based interventions.4,5 Nevertheless, it seems increasingly clear that any such intervention should be selective, rather than universal, because the most emotionally distressed patients appear to benefit the most from such interventions.6,7

To selectively intervene to prevent long-term emotional distress after critical illness, we need a solid understanding of who is at greatest risk. Prior work suggests some relevant risk factors for long-term emotional distress, including prior anxiety or depression, memories of frightening in-ICU experiences, and early emotional distress during recovery.8 However, to date, few investigators have attempted to use risk factor information to predict risk for long-term emotional distress.9 One exception is a multisite prospective cohort study from Sweden, Denmark, and The Netherlands in which the authors included several suspected risk factors and used a statistical model to predict a composite emotional distress outcome 3 months after ICU discharge.10 The authors enrolled 572 patients, of whom 78% responded to 3-month follow-up questionnaires. Five risk factors had univariable associations with the composite outcome, including prior psychiatric morbidity, middle age, lack of social support, and early post-ICU memories of frightening in-ICU experiences and depressive symptoms. In a multivariable model, all of these variables, except prior psychiatric morbidity, were independent predictors of 3-month emotional distress (prior psychiatric morbidity was associated strongly with frightening in-ICU experiences and depression early after ICU discharge). With the use of the four independent predictors as an instrument for 3-month emotional distress, the area under the receiver operating curve was 76%.10

In this issue of CHEST, Teixeira et al11 present data from another large multicenter prospective cohort study of critical illness survivors in Brazil and focused on 6-month mental health outcomes. As in the study reported by Milton et al,10 the authors assessed a number of risk factors for long-term emotional distress; they had long-term outcome data on 579 patients. Unlike Milton et al,10 Teixeira et al11 found that prior psychiatric morbidity (namely depression) and early post-ICU distress (especially depression symptoms) independently predicted 6-month psychiatric morbidity, which included anxiety and depression symptoms, although only post-ICU depression independently predicted posttraumatic stress disorder symptoms. Teixeira et al11 also noted that 6-month emotional distress was associated strongly with decreased physical functioning and dependence on others, although these physical outcomes were assessed simultaneously at 6-month follow up and may actually represent complications of emotional distress, as opposed to risk factors.12 This large study adds important information regarding risk factors for long-term psychiatric morbidity after critical illness. In the future, I hope that the authors will revisit their data with a predictive aim. That is, it remains unclear how much area under the curve might be
accounted for by the prospective risk factors assessed in this study (ie, without an assessment of in-ICU frightening experiences or social support). If we are to improve long-term mental health after critical illnesses, this predictive information will be vital to selective prevention efforts.

References


