models. However, they, like the patients they serve, often lack the knowledge and practical experience to proactively advise their patients. Many medical students and physicians feel ill-equipped to counsel overweight or obese patients.7,8 As such, we need enhanced educational efforts aimed at translating decades of nutrition science into practical strategies whereby healthy, affordable, easily prepared and delicious foods become the predominant elements of a person’s dietary lifestyle. The multidisciplinary interactive educational program described herein may be worthy of further investigation in this regard.

Perhaps in this era of scientific advancement regarding nutrition science, it is now time to “teach the teachers” ways to access, prepare, and enjoy healthy, delicious foods, so that they, in turn, can advise their patients to do the same.

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The Association of Emergency Department Crowding During Treatment for Acute Coronary Syndrome With Subsequent Posttraumatic Stress Disorder Symptoms

Our recent meta-analysis of 24 studies (N=2383 patients) found that 12% of patients with acute coronary syndrome (ACS) (including patients with ST-segment elevation myocardial infarction [STEMI], non-STEMI, and unstable angina [UA]) develop posttraumatic stress disorder (PTSD) symptoms owing to their

See Editor’s Note at end of letter

ACS, and that these PTSD symptoms 1 month post-ACS are associated with a doubling of risk for ACS recurrence or mortality in the subsequent 1 to 3 years.1 Although we reviewed the known risk factors for ACS-
induced PTSD, including demographic and psychological factors, we noted that no study has addressed the possibility that the medical environments in which initial ACS diagnosis and treatment occur might contribute to the traumatic nature of patients' experience during their ACS events. The emergency department (ED) is the initial medical environment for most patients with ACS, and the ED they enter is often overcrowded and chaotic.2 This overcrowding problem has recently been identified as a public health problem by the Institute of Medicine,3 due in part to associated delays in treatment and lower patient satisfaction. Emergency department crowding may contribute to poor cardiovascular outcomes in patients who present with chest pain,4 and we believe that crowded EDs may also contribute to increased risk for ACS-induced PTSD. We hypothesized that greater ED crowding would be associated with increased ACS-induced PTSD symptoms 1 month after presentation at an ED with an ACS event.

Methods. We recorded the time of presentation to the ED of a large urban teaching hospital in New York City for 135 participants (eTable; http://www.jamainternalmed.com) in the ongoing Prescription Use, Lifestyle, Stress Evaluation (PULSE) observational cohort study between 2009 and 2011. These patients were selected because they met the study criteria for ACS and were admitted through the ED during the study period. We determined that mean length of stay (LOS) in the ED was more than 11 hours. We calculated the degree of ED crowding exposure for each participant by summing the hourly ED admissions for the 12 hours prior to and the 12 hours subsequent to each participant's ED presentation time, and we divided the score into tertiles for analysis. Similar metrics have been used previously, but no gold standard for ED crowding measurement currently exists.5 We assessed demographic characteristics by self-report and abstracted clinical data from medical charts. We assessed in-hospital depression symptoms with the Beck Depression Inventory (BDI), and ACS-induced PTSD symptoms by telephone interview 1 month later using the Impact of Events Scale-Revised6 (IES-R) specific for ACS. We tested for group differences across ED crowding tertiles using 1-way analysis of variance for continuous variables and χ² for categorical variables. We used multiple linear regression to assess the association of ED crowding to PTSD symptoms at 1 month.

Results. Participants did not differ on any covariate by ED crowding tertile. Their characteristics were as follows: the mean (SD) age, 63.3 (10.7); 72% were men; 23% were African American; and 47% were Hispanic. Thirteen percent had STEMI; 32%, non-STEMI; 55%, UA; 33%, prior myocardial infarction (MI). Their mean (SD) Global Registry of Acute Coronary Events (GRACE) score was 91.2 (29.1); the left ventricular ejection fraction was less than 40 in 16%; the mean (SD) Charlson comorbidity index score was 1.8 (1.7); and the mean BDI score was 8.4 (7.4). Increasing tertiles of ED crowding were associated with higher levels of 1-month ACS-induced PTSD symptoms in univariate analysis (B=2.0; P<.05). After adjustment for age, sex, education, race/ethnicity; previous MI, GRACE mortality risk score, Charlson comorbidity index, left ventricular ejection fraction of 40% or higher, and in-hospital BDI depression score, increasing tertiles of ED crowding were associated with higher ACS-induced PTSD symptoms at 1 month (B=2.5; P=.01) (Figure). Further adjustment for ED LOS did not alter the result (B=3.0; P=.02; N=99 patients with complete LOS data), and a sensitivity analysis restricted to the 118 patients with non-STEMI and UA yielded nearly identical results.

Comment. Our results suggest that ED crowding may be associated with ACS-induced PTSD symptoms, a risk factor for ACS recurrence and mortality, and a known contributor to poor quality of life, patient satisfaction, and increased medical utilization. Furthermore, the association is independent of ACS severity, medical comorbidities, demographic factors, and depression. To our knowledge, this is the first study to test the relationship of objective features of the ED to the development of subsequent PTSD symptoms in patients with ACS. A mechanism for the association of ED crowding to increased PTSD symptoms may be that a more chaotic environment may foster or inflate perceptions of increased life threat and decreased control, which may in turn contribute to greater acute psychological and physiological arousal.7 Furthermore, ED crowding may be associated with poor physician-patient communication, which has been shown to be related to subsequent PTSD in other patient populations.8

Although our results are based on a small sample from a single ED, we believe they suggest the need for greater awareness of the influence of medical environments on patients' psychological well-being, while underscoring the need for hospital administrators and policymakers to address ED overcrowding.

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Online-Only Material: The eTable is available at http://www.jamainternalmed.com.


EDITOR’S NOTE

The Environment of Health Care: Primum Non Nocere

As a profession, we tend to neglect to reflect on the impact our environments of care may have on patients’ experiences of illness. In particular, our emergency departments and inpatient wards tend to be chaotic maelstroms of human activity with few boundaries. To the unacculturated, these environments can be extremely frightening. Couple that with the terror of severe, life-threatening illness, and one can only imagine how distressing that might be. In this issue of the journal we are presented with provocative observational data that show an association between exposure to such an environment (in this case a crowded emergency department) in the midst of having a myocardial infarction, and an increased incidence of subsequent posttraumatic distress syndrome. This is a novel area of important inquiry and brings to our attention the question of how to optimally build structures and processes of care that may be more conducive to sensitive caring. This could include innovative designs of emergency departments and ward rooms, and triage processing of critical patients to environments that minimize exposure to the disruptive mayhem of other hospital activities. Of course, physicians should always be mindful of the patient’s experience and work to optimize his or her comfort, both physical and emotional. But if we can build structures and develop processes that make it easier to care for patients in optimal environments, then we will be better able to care for patients. More work needs to be done to assess whether doing so results in less traumatic distress, among other outcomes. At the very least, our environments of care should not be contributing to morbidity.

Patrick G. O’Malley, MD, MPH

COMMENTS AND OPINIONS

End-of-Life Care: Where Does the Standard Oncology Care Fail Our Patients and What Do We, as Oncologists, Need to Do Differently?

The study by Zhang et al1 presents the final results of the Coping With Cancer (CWC) study, which is the most comprehensive, prospective study on end-of-life (EOL) care to date, examining patients, caregivers, and health care system end points, and for this the authors need to be congratulated. It puts in order of importance the predictors for better quality of life (QoL) for patients at the EOL. Essentially the 9 predictors can be divided into 2 groups. The first group, ie, intensive care unit admission, hospital deaths, site of cancer care, use of feeding tube, and chemotherapy in the last week in life, reflects aggressiveness of EOL care. The second group, ie, patient worry, religious prayer or meditation, pastoral care, patient-physician therapeutic alliance, reflects psychological/religious-spiritual met or unmet needs and coping mechanisms.

Hence deficiencies in EOL care are identified. The underlying cause for these deficiencies in EOL care can be traced back to how standard oncologic care is for patients with advanced incurable cancer. A recent American Society of Clinical Oncology statement2 suggests that there is an increased focus on disease-directed therapy, often without realistic conversations about prognosis, the potential benefits and limitations of disease-directed therapy, and the potential role of palliative care. This results in increased aggressiveness of care, while neglecting to address physical, psychological, and spiritual consequences of disease and its treatment.

1. Zhang F, Koopman C, Butler L, et al. The impact of environment of care on patients’ experiences of illness. In particu- lar, our emergency departments and inpatient wards tend to be chaotic maelstroms of human activity with few boundaries. To the unacculturated, these environments can be extremely frightening. Couple that with the terror of severe, life-threatening illness, and one can only imagine how distressing that might be. In this issue of the journal we are presented with provocative observational data that show an association between exposure to such an environment (in this case a crowded emergency department) in the midst of having a myocardial infarction, and an increased incidence of subsequent posttraumatic distress syndrome. This is a novel area of important inquiry and brings to our attention the question of how to optimally build structures and processes of care that may be more conducive to sensitive caring. This could include innovative designs of emergency departments and ward rooms, and triage processing of critical patients to environments that minimize exposure to the disruptive mayhem of other hospital activities. Of course, physicians should always be mindful of the patient’s experience and work to optimize his or her comfort, both physical and emotional. But if we can build structures and develop processes that make it easier to care for patients in optimal environments, then we will be better able to care for patients. More work needs to be done to assess whether doing so results in less traumatic distress, among other outcomes. At the very least, our environments of care should not be contributing to morbidity.

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