Depressive Symptoms and Perceptions of ED Care in Patients Evaluated for Acute Coronary Syndrome

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Contribution to Emergency Nursing Practice

- Post-traumatic stress disorder symptoms develop in an estimated 1 in 8 survivors of acute coronary syndrome (ACS) events. Such negative psychological outcomes in these cardiac patients in turn have been associated with increased cardiac morbidity and mortality.
- Overcrowding in the emergency department has been associated with increased risk of the development of post-traumatic stress disorder, and depressed patients in particular appear vulnerable. This study found that currently depressed patients evaluated for ACS had significantly worse perceptions of ED care and stress during ED evaluation.
- Results from this study highlight the importance of emergency nurse providers in assessing both cardiovascular and psychological well-being when evaluating patients for potential ACS events.

Abstract

Introduction: Posttraumatic stress disorder (PTSD) develops in 1 out of 8 survivors of acute coronary syndrome (ACS) events, and these persons have a doubling of risk for recurrent ACS and mortality. Overcrowding in the emergency department during ACS evaluation has been associated with increased risk for PTSD, and depressed patients have been found to be particularly vulnerable. Little is known about the mechanisms by which overcrowding increases PTSD risk in depressed patients. Our aim was to evaluate one possible mechanism, patient perception of crowding and care, in depressed and nondepressed ED patients evaluated for ACS.

Methods: We enrolled 912 participants in the REactions to Acute Care and Hospitalization study, an ongoing observational cohort study assessing patients evaluated for ACS. Participants completed the Emergency Department Perceptions questionnaire. Depressive symptoms were screened using the Personal Health Questionnaire Depression Scale. Objective ED crowding was calculated using the Emergency Department Work Index (EDWIN).

Results: EDWIN scores did not significantly differ between groups. Although perceptions of ED crowding did not differ between groups, depressed patients perceived the emergency department as more stressful [$t = 4.45$, $P < .001$] and perceived poorer care [$t = 3.03$, $P = .003$]. Multiple regression modeling found a significant interaction between EDWIN scores and depression, predicting participants' perception of stress in the emergency department ($F[7,904] = 7.93$, $P < .001$).

Discussion: We found that depressed patients experienced the emergency department as more stressful as objectively measured crowding increased. Our study highlights the complex interplay between cardiovascular disease and mental health in impacting patient health outcomes in the emergency department.

Keywords: Depression; Acute coronary syndrome; Post-trauma tic stress disorder

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Patients evaluated for life-threatening illnesses such as acute coronary syndrome (ACS; eg, myocardial infarction and unstable angina) may experience significant stress during their ED evaluation, leading to adverse psychological and cardiovascular outcomes. Post-traumatic stress disorder (PTSD) develops in an estimated 1 of 8 survivors of ACS, and these persons have a doubling of risk for recurrent ACS and mortality after the initial ACS event.[1–3]

The emergency department is the first point of entry for most patients treated for ACS.[4,5] ED patients evaluated for ACS may be exposed to crowded and at times chaotic emergency departments for prolonged periods while undergoing observation and care. This clinical environment may have a deleterious impact on the psychological and cardiovascular health of patients. Past work has found that overcrowding in the emergency department during ACS evaluation is associated with greater PTSD symptoms on follow-up,[6] and many of the stress-provoking ED environmental factors that contribute to subsequent PTSD risk have been identified.[7–10] Given the harmful medical and psychological outcomes associated with PTSD, an understanding of which patients evaluated for ACS are at elevated risk for the stress-inducing effects of ED overcrowding is critical for ED care providers and administrators.

Depressed patients evaluated for ACS may be particularly vulnerable to the impact of overcrowding. Recent work has found that ACS patients with current depression experienced significantly greater PTSD symptoms under conditions of ED overcrowding compared with patients who were not depressed.[11] This interaction between ED overcrowding and depression on PTSD supports the diathesis-stress model of PTSD development, which proposes that persons with a diathesis or vulnerability for the development of PTSD are at elevated risk for PTSD development when exposed to an external stress that crosses the threshold necessary to activate the diathesis.[12] An understanding of the mechanisms by which ED overcrowding increases PTSD symptoms in ACS patients with depression would help hospital staff improve outcomes in this particularly vulnerable ED group.

A significant body of work has found that depression is a powerful predictor of subsequent PTSD,[13–15] and there appears to be an interaction of depression and ED overcrowding on subsequent PTSD development,[16] but little is known about the mechanisms by which ED overcrowding differentially influences PTSD risk in ACS patients with depression. We propose 2 possible explanations: either depressed patients perceive the emergency department as more crowded than do their counterparts who are not depressed, and thus they experience the ED and ACS event as more stressful, or they perceive the emergency department as similarly crowded but experience those similar levels of crowding as more stressful than do their counterparts who are not depressed.

Past cognitive and clinical psychology studies have documented the presence of negative cognitive biases in

TABLE 1
Sample characteristics by depression status

	Group statistics	
	Not depressed N = 688 mean (SD)	**Depressed N = 255 mean (SD)**
Age, y	60.9 (13.3)	60.7 (12.8)
Sex	40% Women	50% Women
Ethnicity	50% Hispanic	40% Hispanic
Race	23% Black	23% Black
GRACE Risk Score	155.7 (44.1)	155.9 (42.5)
Charlson Comorbidity Index	16.7 (4.0)	16.4 (4.7)
EDWIN score at time of ED admission	1.4 (0.5)	1.4 (0.5)
ED perceptions: how crowded is the ED?	3.1 (1.1)	3.2 (1.1)
ED perceptions: how stressful is the ED?	2.4 (1.2)	2.8 (1.2)
ED perceptions: LOS in the ED, in hours	18.5 (4.8)	19.5 (4.2)
ED perceptions: hours from ED admission to notification of their care plan	7.8 (6.5)	9.5 (7.4)

ED, Emergency department; *EDWIN,* Emergency Department Work Index; *GRACE,* Global Registry of Acute Coronary Events; *LOS,* length of stay.