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Access to care and depression among emergency department patients

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Abstract

Background—The prevalence of depression among patients in the emergency department (ED) is significantly higher than in the general population, making the ED a potentially important forum for the identification of depression and intervention. Concomitant to the identification of depression is the issue of patient access to appropriate care.

Objectives—This study sought to establish prevalence estimates of potential barriers to care among ED patients and relate these barriers with symptoms of depression.

Methods—Two medical students conducted brief surveys on all ED patients 18 years on demographics, perceived access to care, and depression.

Results—A total of 636 participants were enrolled. The percentage of participants with mild or greater depression was 42%. The majority of patients reported experiencing some barriers to care, with the most prominent being difficulty finding transportation, work responsibilities, and the feeling that the doctor is not responsive to their concerns. Higher depression scores were bivariately associated with higher overall barriers to care mean scores ($r=0.44$, $p<0.001$), suggesting that greater symptoms of depression are associated with greater difficulties accessing care. Particularly strong associations were observed between symptoms of depression and difficulty finding transportation, the feeling that the doctor is not responsive to patients' concerns, embarrassment about a potential illness and confusion trying to schedule an appointment.

Conclusion—Across all barriers analyzed, there was a greater incidence of depression associated with a greater perception of barriers. These barriers may be used as potential targets for intervention to increase access to health care resources.

Keywords

access to care; depression; emergency department

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Introduction

Major depressive disorder is a prevalent public health concern characterized by depressed mood and diminished interest or pleasure in most activities of the day.[1] Globally, it is estimated that 350 million people of all ages experience depression.[2] This number may be conservative due to underreporting and lack of care seeking behaviors.[3] The lifetime prevalence of depression is 16.2% and the 12-month prevalence is 6.6% according to the World Health Organization's Composite International Diagnostic Interview.[4] Its economic burden has been estimated at 83.1 billion dollars a year in the United States alone.[5] Boudreaux, Clark, and Camargo[6] demonstrated that the prevalence of depression was significantly greater among patients in the emergency department (ED) than in the overall population. Due to this high concentration of patients with depression, the ED may serve as a vital forum for both identification and intervention in the disease process.[7] The US Preventive Services Task Force has recommended screening patients for depression in locations where there is staff who can further diagnose and support patients who screen positive.[8] The ED may function as such a site, particularly given wait times associated with diagnostic testing endemic to ED visits. Furthermore, previous research has found both patients and caregivers support implementation of depression screenings in the ED.[9]

Despite high prevalence rates in the population, only a small percentage of patients with depression access care.[10] This is partially due to the fact that many available interventions fail to account for barriers to care that may prevent patients from seeking behavioral/mental health care[11], with many patients lacking the financial means for seeking efficacious care. [12] Many primary care physicians (PCPs) have reported that obtaining mental health care for their patients is twice as difficult as obtaining care for other services.[13, 14] Studies have also demonstrated past experiences with providers[15], privacy concerns, interactions with other patients, and patient participation during assessment as influences to healthcare utilization in the depressed population.[16] Qualitative data has also revealed several recurring themes with regard to difficulties accessing care. From the perspective of PCPs, concerns over competence were common, such that roughly 41% did not feel confident in providing depression care. A need for standardization of care was noted by 80%, though the impossibility of such a task was also noted.[17]

Barriers from the patient perspective tend to focus on attitudes and beliefs. A prior study demonstrated that the largest barrier to care was a fear of being placed on antidepressants. Second to this finding was the general view of primary care as being incompetent with regards to depression.[18] In many cases, patients prefer to try to self-manage symptoms. [19] Reasons for self-management may be the result of cultural differences[20], stigma, negative evaluations of therapy, and time.[21]

Barriers may be influenced by severity of depression. Studies have demonstrated that patients with more severe depression or more comorbidities tend to seek care more than those who are mildly or moderately depressed.[22] Data on suicidal ideation supports that depressed patients with suicidal thoughts more actively seek care than those who do not have suicidal thoughts.[23] Increased education levels are associated with greater care seeking behaviors, potentially implying that the inability to properly self-identify depression

(particularly in mild to moderate cases where symptoms may not be as obvious) may be a possible barrier.[24]

Timely detection of depression paired with early intervention could mean an improvement of patient outcomes such as reduction of suicide risk[25], as well as a decline in prevalence and economic burden. Da Cruz and colleagues[26] studied the records of patients who completed suicide within 12 months of mental health contact, and found that over 40% of the sample had visited the ED within one year leading up to their death. These contacts with the healthcare system represent failed vital opportunities for identification of depression and suicidal ideation due to barriers. If the most common and serious barriers to care for depressed patients are identified it is possible that access to care can be enhanced, improving patient outcomes.

Objective

The current study sought to characterize perceptions of access to care and depression among the ED population. We then examined associations between perceived access to care and depression, and we hypothesized that greater symptoms of depression would be associated with greater barriers to care. The goal of this work is to identify the most common and serious barriers to care experienced by depressed individuals presenting to the ED, thereby allowing for the development of more efficacious interventions for implementation in the ED setting.

Methods

Study Design, Setting, and Population

This study was a universal screening, survey study utilizing a convenience sample of adult patients (age 18 years or older) presenting to the ED at <BLINDED> from June-August, 2015.

Study Protocol

Two first-year medical students were stationed in the ED to recruit participants for a total of approximately 70 hours per week for 10 weeks. Representatives of the <BLINDED> Emergency Department Research Associates (EDRA) program would first approach all patients 18 years or older that presented to the <BLINDED> ED, broadly introduce the study, and asked if patients would be willing to speak with the medical student study representatives. For patients that agreed, the medical students would then present the study in detail, determine capacity to consent to the study using a formalized procedure, obtain written informed consent from eligible patients, and conduct a brief questionnaire including demographic information, perceived access to care, and self-reported symptoms of depression. Participant responses were recorded directly into REDCap[27], a secure on-line survey system available to researchers at <BLINDED>. If participants' responses indicated severe depression and/or current thoughts of self-harm (see Measurements below), the medical students would report these data to the physician providing care to the participant, who would subsequently confirm this information and provide standard-of-care treatment to

the patient. This study was approved by the Research Subjects Review Board at the <BLINDED>.

Measurements

Demographic Characteristics—Participants reported on their age using one of three bins: 18–26 years old (eligible for insurance coverage by parents), 27–65 years old, and 65 years or older (general age for insurance coverage via Medicare). Participants self-reported their gender (male, female, or other), race (White, Black/African American, Asian, Native American, Native Hawaiian/Pacific Islander, Multiracial, or Other), ethnicity (Hispanic/Latino/a or Non-Hispanic), insurance status (no insurance, private insurance, Medicaid, Medicare, or other), and presenting complaint.

Access to Care—Participants were asked five questions on their access to providers. The first item asked whether or not an individual had a doctor or doctor's assistant they could reach by telephone for medical problems. The second question asked if participants knew of a healthcare provider that could contact if they were feeling depressed. The third question asked who the provider is they would contact. The fourth question asked how soon after needing care participants were normally able to be seen by a provider: "Same day", "Less than 48 hours", "Less than one week", "Less than two weeks", "More than two weeks", or "I don't know." The fifth question asked whether their insurance provided coverage for treatment of depression or other mental health concerns.

Participants were also asked to report on the extent to which a set of nine specific barriers of care limited their ability to see a doctor in the past year. Items were adapted from those used by Fitzpatrick and colleagues.[28] The stem for these items was, "In the past year, to what extent has...limited your ability to see a doctor?", and the specific items were (a) taking care of others (like caring for a spouse or grandchildren), (b) lack of insurance, (c) difficulty finding transportation, (d) doctor, clinic, or hospital bills, (d) work responsibilities, (e) fear that the doctor will discover a serious illness, (f) your feeling that the doctor is not responsive to your concerns, (g) embarrassment about a potential illness, and (h) confusion trying to schedule an appointment. Response options were "Not at All" = 1, "Very Little" = 2, "Moderate" = 3, "Very Much" = 4, "A Whole Lot" = 5, and "Don't Know" = missing. Items were examined separately and as a global index (i.e., mean within-person barrier value).

Depression—The Patient Health Questionnaire 9 (PHQ-9) is a nine-item, self-reported screening tool for the identification of depression. Items reference the last two weeks, and are indexed on a four point scale: "Not at all" = 0, "Several Days" = 1, "More than half the days" = 2, and "Nearly every day" = 3. Scores for each item are summed to provide an overall index of depression severity. Summed scores divide participants into those with No Depression (score = 0), Minimal Depression (1–4), Mild Depression (5–9), Moderate Depression (10–14), Moderately Severe Depression (15–19), and Severe Depression (20–27). This measure is both highly sensitive and specific for identifying major depression (i.e., each at 88%)[29], and has been recommended for use as a screener in the ED[30]. We examined both the continuous sum score and differences across depression groups. The final

question of the PHQ-9 asks about “thoughts that you would be better off dead or of hurting yourself in some way.” We added a linked item if participants reported these thoughts in the past two weeks asking if participants were currently experiencing these concerns as an indicator of active suicidal ideation. For participants with a PHQ-9 score ≥ 20 and/or active suicidal ideation, the enrolling medical student presented this information to the physician providing care to the patient.

Data Analysis

Descriptive statistics for demographic, access to care, and depression items were first examined using means and standard deviations for continuous variables and frequencies and percentages for discrete/categorical variables. Pearson correlation coefficients were used to examine bivariate associations between variables. Hierarchical multiple regression was then utilized to control for the potential impact of demographic characteristics. Standardized regression coefficients (β) were used to describe the associations observed in this model.

A priori power analyses indicated we needed a sample of at least 617 participants was required to observe a bivariate association as small as 0.10 with power of 0.80 and an alpha level of 0.05.

Results

Descriptive Analyses

A total of 636 ED patients were enrolled in the study and completed the brief survey. Descriptive characteristics of the sample are presented in Table 1. Chief complaints were highly variable, with the most common involving abdominal pain ($n = 82$; 13%), chest pain ($n = 38$; 6%), back/neck complaints ($n = 35$; 6%), and kidney issues ($n = 36$; 6%).

Depression was relatively common in this sample, with mean values in the “mild depression” range and 18% of patients reporting at least “moderate depression.” With regard to access to care, the vast majority of patients reported having a provider reachable by phone for medical concerns, and a marginally smaller percentage reported knowing of a healthcare provider who could be contacted if the patient were feeling depressed. Most patients would first speak with their primary care provider, though a minority (approximately 18%) would speak with a behavioral health professional.

The majority of patients reported some degree of barrier to care (60%), with 160 individuals (25%) reporting at least one concern represented at least a moderate barrier to care. A total of 104 patients reported that at least one barrier had limited their ability to see a doctor “a whole lot” (16%), with 30 patients reporting more than one barrier at this level (5%). The most commonly endorsed barriers to care were work responsibilities (endorsed by 24%), feeling that the doctor is not responsive to their concerns (21%), and difficulty finding transportation (20%), with correspondingly high mean values. Transportation difficulties were most frequently reported as limiting access “a whole lot” (5%).

Bivariate Associations

Depression was then related to access to care variables (see Table 2). Access to care was significantly associated with depression, such that greater symptoms of depression were associated with greater perceived barriers to care. This association was maintained when limiting the sample to individuals who reported some level of depression ($n = 511$, $r = 0.40$, $p < 0.001$) or when limiting the sample to only those individuals who reported some degree of barrier to care ($n = 366$, $r = 0.35$, $p < 0.001$). When examined individually, the strongest associations with depression were observed for transportation difficulties, concerns about doctor responsiveness, confusion trying to schedule an appointment, and embarrassment about a potential illness (see Table 3).

Multivariate Model

We then sought to use hierarchical multiple regression to examine the association between access to care and depression when accounting for demographic characteristics (patient sex, age, race [coded as White vs. Non-White], and ethnicity). In step 1 of the model, the set of patient demographics accounted for 9% of the variance in access to care, $F(4, 555) = 13.94$, $p < 0.001$. Older individuals reported fewer barriers to care ($\beta = -0.20$, $p < 0.001$), as did white patients ($\beta = -0.08$, $p = 0.046$). Hispanic or Latino/Latina patients reported significantly greater barriers to care than non-Hispanic/Latino(a) patients ($\beta = 0.17$, $p < 0.001$).

The inclusion of depression scores in the second step of the regression resulted in significant improvement in prediction of access to care, $R^2 = 0.18$, $F(1, 554) = 136.71$, $p < 0.001$; overall Adjusted $R^2 = 0.27$. Greater depression scores were associated with significantly greater barriers to care ($\beta = 0.43$, $p < 0.001$). This β is nearly identical to the bivariate association previously observed ($r = 0.44$), implying that the association between depression and access is largely independent of these demographic characteristics. Post hoc analyses examining models within each age range, patient sex, and patient race (White/Non-White) all showed the same pattern of moderate-to-strong associations between depression and access to care (p 's < 0.001), further supporting the observed relationship.

Discussion

While there have been great strides in the development of effective pharmacologic and psychotherapy treatment for depression, the question still remains of how to eliminate the barriers blocking patients from accessing the resources available to them. These barriers are particularly relevant to care in the emergency department, as previous research has shown depression to be more common in the ED than the general population[31, 32], is associated with poorer outcomes of medical treatment received in the ED,[33] and is associated with longer length of stay in the ED[34] and greater repeated visits to the ED[35]. As such, identifying the extent to which depression and access to care are linked in the ED population may be of significant clinical and research value.

The current study found a consistent link between symptoms of depression and patient perceptions of difficulties accessing care. This association was shown to hold at the

bivariate, multivariate, and subset levels of analysis, with linkages shown at the aggregate and barrier-specific levels. Previous epidemiological data has linked depression and barriers to care[36], though the current study represents a unique focus on establishing this link prospectively through the ED.

Results of the current study imply the potential utility of interventions to improve identification of and referral to treatment for depression in the ED. While some research has shown screening for depression in the ED can improve patient care and satisfaction with minimal provider time expenditure[37], skepticism remains such that alternative methods should be explored. We utilized medical students as universal screeners, though this screening would likely have been just as, if not more, effective with the use of pre-health professional ED research associates, a population readily available at many institutions with familiarity in the ED and the ability to reach many patients[38]. Either method avoids layering depression screening responsibilities upon providers, while also potentially giving providers valuable clinical information that could improve patient care in the ED and long-term outcomes.

With increased identification, the barriers to care observed in this study may be used as potential targets for intervention to increase patient follow-through on referrals received in the ED. These types of efforts are desperately needed, as follow-through on ED referrals are consistently poor[39]. Increased perceptions of barriers were observed among depressed patients, such that addressing specific difficulties accessing care may improve continuity of care. For example, brief interviews by providers/students/research associates discussing potential barriers to care and available services or tailored discharge instructions have the potential to improve follow-through and, ultimately, patient outcomes and ED utilization.

Limitations

The current study relied on patient self-reports of depression and perceptions of access to care. Validation of reports using multiple methods (e.g., confirmation using a separate screener; timeline follow-back of difficulties accessing care) would limit the potential for recall bias and strengthen the current study. Findings were also correlational, in nature, such that causal interpretations could not be made. Advanced methods for controlling for potential research confounds (i.e., propensity scores[40]) in a broader dataset would provide additional support for the findings.

Conclusions

Across a broad set of barriers to care, greater symptoms of depression were associated with greater difficulties accessing care among ED patients. The barriers identified may prove useful as potential targets for intervention to increase access to health care resources and continuity of care for patients with mental health concerns.

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Article Summary

1. Why is this topic important?

Unaddressed depression is a serious public health concern, particularly among patient in the emergency department. As such, understanding the association between symptoms of depression and access to care is essential for designing and refining interventions aimed improving patient mental health outcomes

2. What does this study attempt to show?

This study attempts to show that, among patients presenting to the emergency department, individuals with greater levels of depression also report greater barriers to receiving appropriate care.

3. What are the key findings?

Greater depression was significantly related to greater barriers to care. The strongest associations with depression were seen for barriers related to transportation difficulties, perceptions that providers are not responsive to patient concerns, confusion scheduling an appointment, and embarrassment about a potential illness.

4. How is patient care impacted?

Study findings may spur on universal screening efforts for depression, in consort with screening for barriers to care, in the emergency department. While providers are often too busy treating presenting complaints in a crowded unit to perform these screenings, parallel service providers (like research associates or medical students) might be able to offer this service. Ultimately, reducing population mental health burden will decrease unnecessary ED utilization and improve care for other patients in the unit.

Table 1

Descriptive statistics

	<i>M</i>	<i>SD</i>	Frequency	%^a
<i>Participant Sex</i>				
Male			279	48%
Female			305	52%
<i>Age</i>				
18–26			122	19%
27–65			393	62%
65+			121	19%
<i>Race</i>				
White			455	72%
Black/African American			125	20%
Asian			7	1%
Native American			7	1%
Multi-racial			38	6%
Other			4	1%
<i>Hispanic or Latino/Latina</i>				
No			565	89%
Yes			68	11%
<i>Insurance Type</i>				
No Insurance			18	3%
Private Insurance			348	55%
Medicaid			217	34%
Medicare			151	24%
Other			12	2%
PHQ-9 Score	5.30	5.47		
No depression (0)			103	17%
Minimal depression (1–4)			252	41%
Mild depression (5–9)			150	24%
Moderate depression (10–14)			59	10%
Moderately severe depression (15–19)			35	6%
Severe depression (20–27)			15	2%
Has a provider that can be reached by telephone for medical problems			557	88%
Knows of a healthcare provider who contact if feeling depressed			493	78%
Primary Care Doctor			330	67% ^b
Psychologist or Counselor			65	13% ^b
Psychiatrist			26	5% ^b
Other			72	15% ^b
Access to Care Mean Score	1.32	0.42		
<i>Specific Barriers</i>				

	<i>M</i>	<i>SD</i>	Frequency	% ^a
Taking care of others	1.35	0.91		
Lack of insurance	1.33	1.94		
Difficulty finding transportation	1.44	1.02		
Doctor, clinic, or hospital bills	1.30	0.84		
Work responsibilities	1.47	0.99		
Fear that the doctor will discover a serious illness	1.26	0.78		
Your feeling that the doctor is not responsive to your concerns	1.41	0.93		
Embarrassment about a potential illness	1.15	0.59		
Confusion trying to schedule an appointment	1.20	0.61		

^aBased on non-missing data.

^bPercentage of individuals who knew of a provider to contact ($n = 493$)

Table 2

Bivariate correlations

	1	2	3	4
1. PHQ-9 Score	1	0.44 (<0.001)	-0.12 (0.005)	-0.09 (0.031)
2. Access to Care Mean Score		1	-0.19 (<0.001)	-0.20 (<0.001)
3. Has a provider for medical problems			1	0.42 (<0.001)
4. Knows of a provider for depression				1

Note: P-values in parentheses

Table 3

Bivariate correlations between PHQ-9 score and specific barriers to care

	PHQ-9 Score
Taking care of others	0.24 (<0.001)
Lack of insurance	0.21 (<0.001)
Difficulty finding transportation	0.30 (<0.001)
Doctor, clinic, or hospital bills	0.11 (0.009)
Work responsibilities	0.10 (0.01)
Fear that the doctor will discover a serious illness	0.20 (<0.001)
Your feeling that the doctor is not responsive to your concerns	0.29 (<0.001)
Embarrassment about a potential illness	0.28 (<0.001)
Confusion trying to schedule an appointment	0.29 (<0.001)

Note: P-values in parentheses