



HHS PUBLIC ACCESS

Author manuscript

Gen Hosp Psychiatry. Author manuscript; available in PMC 2017 September 01.

Published in final edited form as:

Gen Hosp Psychiatry. 2016 ; 42: 49–53. doi:10.1016/j.genhosppsy.2016.06.004.

Depression and Doctor-Patient Communication in the Emergency Department

Mytra Haerizadeh, B.A.¹, Nathalie Moise, M.D., M.S.¹, Bernard P. Chang, M.D., Ph.D.², Donald Edmondson, Ph.D, MPH¹, and Ian M. Kronish, M.D., MPH¹

¹Center for Behavioral Cardiovascular Health, Columbia University Medical Center, 622 W. 168th St, New York, NY 10032, USA

²Department of Emergency Medicine, Columbia University Medical Center, 622 W. 168th St, New York, NY 10032, USA

Abstract

Objective—Depression may adversely affect health outcomes by influencing doctor-patient communication. We aimed to determine the association between depressive symptoms and doctor-patient communication among patients presenting to the emergency department (ED) with a suspected acute coronary syndrome (ACS).

Method—We enrolled a consecutive sample of 500 patients evaluated for ACS symptoms from the ED of an urban medical center. Depressive symptoms (8-item Patient Health Questionnaire, PHQ-8) and doctor-patient communication in the ED (Interpersonal Processes of Care) were assessed during hospitalization. Logistic regression was used to determine the association between depressive symptoms and doctor-patient communication, adjusting for age, sex, race, ethnicity, education, language, health insurance status, and comorbidities.

Results—Compared to non-depressed patients, depressed patients (PHQ-8 ≥ 10) were more likely ($p < .05$) to report suboptimal communication on 5 of 7 communication domains: clarity, elicitation of concerns, explanations, patient-centered decision-making, and discrimination. A greater proportion of depressed versus nondepressed patients reported suboptimal overall communication (39.8% versus 22.9%, $p < 0.001$). In adjusted analyses, depressed patients remained more likely to report suboptimal doctor-patient communication (adjusted OR 2.42, 95% CI 1.52–3.87; $p < 0.001$).

Conclusions—Depressed patients with ACS symptoms reported less optimal doctor-patient communication in the ED than non-depressed patients. Research is needed to determine whether subjectively rated differences in communication are accompanied by observable differences.

Address for correspondence: Ian M. Kronish, Center for Behavioral Cardiovascular Health, 622 W. 168th Street, PH9-311, New York, NY 10032.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Conflicts of Interest

None to report

Keywords

Doctor-patient communication; depression; cardiovascular disease; emergency department

1. Introduction

Depression is associated with adverse health outcomes in patients with chronic medical conditions.¹ In the case of cardiovascular disease (CVD), CVD patients with comorbid depression are at twice the risk of cardiac morbidity and mortality compared to CVD patients without depression.^{2, 3} Previous studies have described possible mechanisms linking depression with poor prognosis in CVD patients. Plausible mechanisms include behavioral factors such as medication nonadherence or physical inactivity^{4, 5, 6} and biological factors such as increased inflammation or autonomic nervous system dysfunction in patients with depression.⁷ Another potential mechanism is that depressed patients with CVD may have more negative experiences with doctors.

An important part of patients' healthcare is communication between patients and their doctors. High quality doctor-patient communication includes clear verbal communication, involvement of patients in the decision-making process, and respectful, compassionate interpersonal style.⁸ Good doctor-patient communication has been associated with higher patient satisfaction, better medication adherence, and improved outcomes in chronic diseases.^{9, 10, 11}

There are several ways by which depression could influence communication between doctors and patients. Doctors might find depressed patients more challenging or frustrating to work with.¹² Depressed patients may be less likely to ask questions or advocate for themselves.¹³ Depressed patients may also hold a more negative world view of doctors and the healthcare system in general as a result of an underlying negative cognitive bias.³ Thus far, few studies have assessed the association between depression and doctor-patient communication, and none have examined this association in the setting of the emergency department (ED).^{14, 15} At times busy and hectic, the ED clinical environment may be an especially challenging setting for communication between providers and depressed patients.¹⁶

In this study, we examined the association between depressive symptoms and doctor-patient communication in the ED setting. The analysis included patients presenting to the ED with an admitting diagnosis of suspected acute coronary syndrome (ACS; non-ST-segment elevation myocardial infarction and unstable angina). We hypothesized that patients with elevated depressive symptoms during presentation would report worse doctor-patient communication in the ED.

2. Materials and Methods

2.1 Participants and Procedures

This analysis was conducted among the first 500 patients enrolled from November 2013 to January 2015 in the REactions to Acute Care and Hospitalization (REACH) study. REACH

is an ongoing observational cohort study that seeks to determine the predictors of PTSD among patients presenting to the ED with symptoms of an acute coronary syndrome (ACS) and whether PTSD is an independent risk factor for adverse cardiovascular prognosis among such patients. The study enrolls a consecutive sample of patients presenting to a single, urban ED (XXX) with symptoms of a suspected ACS. Potential patients were identified when an ED physician gave them a provisional diagnosis of “probable ACS.” Patients were excluded from the study if they had ST elevations on their electrocardiograms upon presentation to the ED, as these patients are immediately sent to the cardiac catheterization laboratory and are unavailable for consent in the ED. Patients were also excluded if they were non-English and non-Spanish speaking, cognitively impaired, active substance abusers, in need of immediate psychiatric intervention, terminally ill, or otherwise unavailable for 1 year of follow-up as the study continues for 12 months. Patients who were later found to not have an ACS were still eligible for the study.

While in the ED, patients were interviewed to collect data regarding their sociodemographic characteristics and ACS symptoms. After they were admitted to the hospital patients were interviewed a second time to assess depressive symptoms and perceptions of doctor-patient communication in the ED. These second interviews took place a median of 3 days after admission (IQR 1–6 days). Second interviews were conducted by telephone if patients were discharged before the interview could be completed in person while in hospital. Information pertaining to medical history was abstracted from the medical record. All patients provided written informed consent. The Institutional Review Board of XXX approved the study.

2.2 Depressive Symptoms

Depressive symptoms were assessed using the eight-item Patient Health Questionnaire (PHQ-8), which is an accurate and reliable tool for assessing depression in both the general population and in cardiac patients.^{17, 18} The PHQ-8 is identical to the PHQ-9 except it omits an item inquiring about suicidal ideation. The PHQ-8 has been shown to have comparable test properties to the 9-item version, and a positive response to the ninth item inquiring about suicidal symptoms infrequently corresponds to a positive suicide plan on psychiatric interview among CVD patients.¹⁹ This suggests that the 8-item version was more appropriate for our patient population. A PHQ-8 score ≥ 10 has a high sensitivity and specificity for diagnosing depression.^{17, 19} PHQ-8 scores of 0–4, 5–9, 10–14, and ≥ 15 represent minimal, mild, moderate, and moderately severe or severe levels of depressive symptoms, respectively.¹⁹

2.3 Doctor-patient communication

Doctor-patient communication was assessed using the 18-item Interpersonal Processes of Care survey (IPC). The IPC assesses seven subdomains of doctor-patient communication: clarity, eliciting concerns, explaining results, patient-centered decision making, respectfulness, lack of discrimination, and respectful office staff.⁶ Each of these subdomains consists of two to four items that are scored on a 5-point Likert scale from 1 (“never”) to 5 (“always”). Summary scores can be calculated for each of the subdomains and for the overall IPC score, with higher scores reflecting better doctor-patient communication.^{14, 15, 20}

2.4 Covariates

Covariates potentially influencing doctor-patient communication and/or depression were selected *a priori* based upon a review of the literature. They included: age, sex, race, ethnicity, primary language, education level, health insurance status, the Charlson comorbidity index, and cause of presenting ACS symptoms (confirmed ACS versus non-ACS).^{21, 22, 23, 24} The Charlson comorbidity index consists of 22 medical conditions that increase a patient's risk of mortality.²⁵ Covariate data were obtained through patient interviews, and in the case of the Charlson score and cause of ACS symptoms, through medical chart review. The cause of ACS symptoms was independently adjudicated by two study physicians with differences in classification resolved through consensus.

2.5 Statistical analysis

Missing data on the IPC survey was imputed using the maximum likelihood estimation of the expected value of each missing item, conditional on all answered items.²⁵ IPC sum scores were positively skewed, with the majority of patients giving items the best possible score, 5. Therefore, as has been done in prior studies for ease of interpretation, we categorized doctor-patient communication as “optimal” or “suboptimal” if the average item score in a subdomain or on the entire questionnaire was ≤ 4 .^{14, 20} Chi-square analysis was used to test the association between elevated depressive symptoms and suboptimal doctor-patient communication on individual IPC subdomains and on the overall IPC. As we did not have specific hypotheses regarding the associations between depressive symptoms and individual IPC subdomains, we assessed these associations with and without applying a post-hoc Bonferroni correction adjusting for multiple comparisons. A p-value of 0.05 was used to denote statistical significance without a Bonferroni correction, and a p-value of 0.007 was used to denote statistical significance with a Bonferroni correction. Line-by-line trend test was used to test for a graded association between increasing depressive symptoms and prevalence of suboptimal doctor-patient communication. Logistic regression was used to test the association between depressive symptoms and overall doctor-patient communication. The model adjusted for age, sex, race, ethnicity, primary language, education level, health insurance status, Charlson comorbidity index, and cause of presenting ACS symptoms (confirmed ACS versus other cause).

3. Results

Of the first 820 potentially eligible patients approached in the ED, 500 (61%) consented to participate. Two patients did not complete the PHQ-8 and were excluded from all analyses. The mean age of the sample was 60 (SD 13) years, 47% were women, 35% were White, 28% were Black, and 53% were Hispanic (Table 1). Thirty-four percent of enrolled patients had a confirmed ACS (60% unstable angina, 40% myocardial infarction). Other common reasons for presenting ACS symptoms included a non-cardiac but “not otherwise specified” diagnosis (26%), musculoskeletal pain (13%), other cardiac diagnoses such as hypertensive urgency or atrial fibrillation (11%), gastrointestinal problems (9%), other non-cardiac diagnoses such as pneumonia or pulmonary embolism (4%), and anxiety (3%).

Forty-six percent of patients reported minimal depressive symptoms (PHQ-8 score 0–4), 27% reported mild depressive symptoms (PHQ-8 score 5–9), 15% reported moderate depressive symptoms (PHQ-8 score 10–14), and 12% reported moderately severe to severe depressive symptoms (PHQ-8 score ≥ 15). Compared to non-depressed patients (PHQ-8 <10), depressed patients (PHQ-8 ≥ 10) were more likely to be Hispanic and to have lower levels of education (both $p=.02$), but were otherwise similar with respect to demographic and comorbidity characteristics including whether or not they had a confirmed ACS.

Suboptimal doctor-patient communication in the ED was reported in 28% of patients. Suboptimal doctor-patient communication was reported in 39.8% of depressed patients compared to 22.9% of non-depressed patients ($p<0.001$). There was also a graded association between increasing severity of depressive symptoms and increasing prevalence of suboptimal doctor-patient communication (P-value for linear-by-linear association < 0.001; Figure 1).

A greater proportion of depressed patients reported suboptimal communication on each of the doctor-patient communication subdomains, and these differences were significant ($p<0.05$) for five of the subdomains (clarity, eliciting concerns, explaining results, patient-centered decision-making, and discrimination; Figure 2). After applying a post-hoc Bonferroni correction, depressive symptoms were significantly associated ($p<0.007$) with only three of the subdomains (clarity, eliciting concerns, and explaining results). Patient-centered decision-making was the subdomain on which ED physicians received the worst ratings, with over 70% of both depressed and non-depressed patients rating communication in this domain as suboptimal.

In adjusted analyses, depressive symptoms continued to be associated with suboptimal doctor-patient communication. In comparison with non-depressed patients (PHQ-8<10), depressed patients had 2.42, 95% CI 1.52–3.87 greater odds of reporting poor communication ($P<.001$). When considered according to severity of depressive symptoms, there was a graded association between increasing severity of depressive symptoms and increasing likelihood of suboptimal doctor-patient communication (Table 2). None of the other covariates had a significant association with doctor-patient communication in either of the models.

4. Discussion

We found that the presence of depressive symptoms was associated with patient perceptions of suboptimal doctor-patient communication in the ED. With respect to specific subdomains of communication, depressive symptoms were independently associated with suboptimal clarity of communication, elicitation of concerns, and explanations of results. Depressive symptoms were more weakly associated with suboptimal patient-centered communication and perceived discrimination from the physician. Interestingly, none of the other covariates assessed, including non-English language, minority race and ethnicity, nor education were associated with suboptimal overall doctor-patient communication nor with suboptimal doctor-patient communication on any of the communication subdomains in this sample.

A few prior studies have assessed the association of depressive symptoms with perceived doctor-patient communication in an outpatient setting. In a cohort of 231 adult outpatients with diabetes, Swenson and colleagues found that severe depressive symptoms were associated with suboptimal communication in four of seven domains of the IPC instrument, including elicitation of patient concerns, explaining results, empowerment, and decision-making.¹² Another study examined outpatients with chronic coronary artery disease and found that depressive symptoms were associated with suboptimal communication in two domains: explanations of condition and responsiveness to patient preferences.¹⁵ To our knowledge, our study is the first to examine the association of depressive symptoms with doctor-patient communication in the ED setting. It also builds on past research by examining the association between depressive symptoms and all subdomains of the IPC, including two subdomains that have not previously been investigated: perceived discrimination and respectfulness. Interestingly, a majority of both depressed and non-depressed patients rated patient-centered communication in the ED as suboptimal; this may reflect an emphasis on physician-directed decision making in acute medical circumstances, as well as a passing of responsibility for shared-decision making to the inpatient team among patients who were admitted.

Why patients with depressive symptoms perceive doctor-patient communication to be suboptimal is unclear. One possibility is that clinicians may interact differently with patients who have mental disorders such as depression. It is possible that the ED physicians in our study either saw a diagnosis of depression in the patient's electronic medical record or perceived depressive symptoms based on the patient's clinical presentation. Prior research has shown that physicians' tend to hold more negative attitudes towards patients who have depression. For example, patients with depression tend to be less well-liked and are considered to be more frustrating by their doctors.^{26, 27} We previously showed that depression was associated with a lack of treatment intensification in patients with uncontrolled hypertension.²⁸ Additionally, common symptoms of depression such as psychomotor retardation and poor concentration, may hinder communication. An alternative hypothesis is that patients with depressive symptoms are receiving the same care as those without depressive symptoms, but perceive this communication in a more negative way. Cognitive psychologists have noted the presence of negative schema or a general negative interpretation of events or interactions by individuals with depression.²⁹ This could be attributed to depressed patients' negative worldview and feelings of hopelessness. Further research should examine why depressed patients report suboptimal doctor-patient communication, perhaps by observing doctor-patient interactions in the ED and comparing observed doctor-patient encounters among depressed and non-depressed patients.

Whether or not clinicians are behaving differently with depressed patients, depressed patients are experiencing suboptimal communication in the ED. The impact of suboptimal communication in the ED on health outcomes is deserving of further study. Given prior studies showing an association between depressive symptoms and communication in outpatient settings, it is likely that this association is generalizable across health care settings. Thus, our findings strengthen the possibility that suboptimal doctor-patient communication explains, in part, why depressed patients with medical conditions such as cardiovascular disease have worse medical outcomes than those without depression. It is

possible that depressed patients may have different communication needs, and may require distinct communication strategies on the part of the physicians, particularly in the hectic ED setting where patients are especially vulnerable to poor communication due to long wait times and crowding.^{30, 31}

There were several limitations to our study. The cross-sectional design prevented us from conclusively determining the directionality of the association between patients' depressive symptoms and doctor-patient communication. Depressive symptoms are comorbid with other mental disorders such as personality or anxiety disorders that were not assessed in the study, and hence, we cannot exclude the possibility that the association between depressive symptoms and communication was spurious due to a failure to account for these potential confounders. We used the IPC survey to measure doctor-patient communication rather than directly observing the interactions between participants and ED physicians. It is possible that the questionnaire, though standardized and validated, did not capture the subtleties of doctor-patient interactions. Further, we did not assess the extent to which ED physicians were aware of or influenced by patients' depressive status. Future studies should consider using direct observation to better understand if depressed patients are actually receiving or just perceiving worse care. Prior studies have not determined whether suboptimal communication in the ED setting results in adverse patient outcomes. Also, the PHQ-8 and the IPC surveys were administered to the patients after they had left the ED, and it is possible that it was difficult for patients to remember the details of their interactions with ED physicians. Also, we did not collect and analyze data based on individual ED physicians or staff. Finally, a substantial number of participants declined to participate and patients were enrolled from only one ED. Nevertheless, given the hecticness of recruiting in the ED setting, our participation rate compared favorably with other ED studies.³²

4.1 Conclusions

Patients presenting to the ED with ACS symptoms and comorbid depressive symptoms were more likely to report suboptimal doctor-patient communication in the ED than those without depressive symptoms. It is unknown whether there is an actual difference in the care delivered to these patients, or if they are simply perceiving their care in a more negative way. Regardless, our results indicate a need for future research to investigate how to improve perceptions of doctor-patient communication among depressed patients in the ED.

Acknowledgments

This work was supported by grants HL117832, HL123369, and HL 128310 from the National Heart, Lung, and Blood Institute. XXX received additional support from NHLBI (grant T35HL007616-35).

References

1. Katon W, Ciechanowski P. Impact of major depression on chronic medical illness. *J Psychosom Res.* 2002; 53(4):859–863. [PubMed: 12377294]
2. Lett HS, Blumenthal JA, Babyak MA, et al. Depression as a risk factor for coronary artery disease: evidence, mechanisms, and treatment. *Psychosom Med.* 2004; 66(3):305–315. [PubMed: 15184688]
3. van Melle JP, de Jonge P, Spijkerman TA, et al. Prognostic association of depression following myocardial infarction with mortality and cardiovascular events: a meta-analysis. *Psychosom Med.* 2004; 66(6):814–822. [PubMed: 15564344]

4. Ziegelstein RC, Fauerbach JA, Stevens SS, Romanelli J, Richter DP, Bush DE. Patients with depression are less likely to follow recommendations to reduce cardiac risk during recovery from a myocardial infarction. *Arch Intern Med.* 2000; 160(12):1818–1823. [PubMed: 10871976]
5. DiMatteo MR, Lepper HS, Croghan TW. Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on patient adherence. *Arch Intern Med.* 2000; 160(14):2101–2107. [PubMed: 10904452]
6. Edmondson D, Kronish IM, Wasson LT, Giglio JF, Davidson KW, Whang W. A test of the diathesis-stress model in the emergency department: Who develops PTSD after an acute coronary syndrome? *J Psychiatr Res.* 2014; 53:8–13. [PubMed: 24612925]
7. Burg MM, Edmondson D, Shimbo D, et al. The 'perfect storm' and acute coronary syndrome onset: do psychosocial factors play a role? *Prog Cardiovasc Dis.* 2013; 55(6):601–610. [PubMed: 23621970]
8. Stewart AL, Napoles-Springer A, Perez-Stable EJ. Interpersonal processes of care in diverse populations. *The Milbank Quarterly.* 1999; 77(3):305–339. 274. [PubMed: 10526547]
9. Ong LM, de Haes JC, Hoos AM, Lammes FB. Doctor-patient communication: a review of the literature. *Soc Sci Med.* 1995; 40(7):903–918. [PubMed: 7792630]
10. Ratanawongsa N, Karter AJ, Parker MM, et al. Communication and medication refill adherence: the Diabetes Study of Northern California. *JAMA Intern Med.* 2013; 173(3):210–218. [PubMed: 23277199]
11. Greenfield S, Kaplan S, Ware JE Jr. Expanding patient involvement in care. Effects on patient outcomes. *Ann Intern Med.* 1985; 102(4):520–528. [PubMed: 3977198]
12. Hahn SR, Kroenke K, Spitzer RL, et al. The difficult patient: Prevalence, psychopathology, and functional impairment. *J Gen Intern Med.* 1996; 11(1):1–8. [PubMed: 8691281]
13. Wittink MN, Barg FK, Gallo JJ. Unwritten rules of talking to doctors about depression: integrating qualitative and quantitative methods. *Ann Fam Med.* 2006; 4(4):302–309. [PubMed: 16868233]
14. Swenson SL, Rose M, Vittinghoff E, Stewart A, Schillinger D. The influence of depressive symptoms on clinician-patient communication among patients with type 2 diabetes. *Med Care.* 2008; 46(3):257–265. [PubMed: 18388840]
15. Schenker Y, Stewart A, Na B, Whooley MA. Depressive symptoms and perceived doctor-patient communication in the Heart and Soul study. *J Gen Intern Med.* 2009; 24(5):550–556. [PubMed: 19274477]
16. Hoot NR, Aronsky D. Systematic review of emergency department crowding: causes, effects, and solutions. *Ann Emerg Med.* 2008; 52(2):126–136. [PubMed: 18433933]
17. Kroenke K, Strine TW, Spitzer RL, Williams JB, Berry JT, Mokdad AH. The PHQ-8 as a measure of current depression in the general population. *J Affect Disord.* 2009; 114(1–3):163–173. [PubMed: 18752852]
18. Razykov I, Ziegelstein RC, Whooley MA, Thombs BD. The PHQ-9 versus the PHQ-8--is item 9 useful for assessing suicide risk in coronary artery disease patients? Data from the Heart and Soul Study. *J Psychosom Res.* 2012; 73(3):163–168. [PubMed: 22850254]
19. Kroenke K, Spitzer RL, Williams JB, Lowe B. The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: a systematic review. *Gen Hosp Psychiatry.* 2010; 32(4):345–359. [PubMed: 20633738]
20. Fernandez A, Schillinger D, Grumbach K, et al. Physician language ability and cultural competence. An exploratory study of communication with Spanish-speaking patients. *J Gen Intern Med.* 2004; 19(2):167–174. [PubMed: 15009796]
21. Peck BM. Age-related differences in doctor-patient interaction and patient satisfaction. *Current Gerontology and Geriatrics Research.* 2011; 2011:137492. [PubMed: 22007206]
22. Johnson RL, Roter D, Powe NR, Cooper LA. Patient race/ethnicity and quality of patient-physician communication during medical visits. *Am J Public Health.* 2004; 94(12):2084–2090. [PubMed: 15569958]
23. Ferguson WJ, Candib LM. Culture, language, and the doctor-patient relationship. *Fam Med.* 2002; 34(5):353–361. [PubMed: 12038717]

24. Willems S, De Maesschalck S, Deveugele M, Derese A, De Maeseneer J. Socio-economic status of the patient and doctor-patient communication: does it make a difference? *Patient Education and Counseling*. 2005; 56(2):139–146. [PubMed: 15653242]
25. Little, RJA.; Rubin, RD. *Statistical Analysis with Missing Data*. 2nd. New York, NY: John Wiley and Sons; 2002.
26. Hall JA, Horgan TG, Stein TS, Roter DL. Liking in the physician--patient relationship. *Patient Education and Counseling*. 2002; 48(1):69–77. [PubMed: 12220752]
27. McWilliams, N. *Psychoanalytic Diagnosis: Understanding Personality Structure in the Clinical Process*. New York, NY: Guilford Press; 1994.
28. Moise N, Davidson KW, Chaplin W, Shea S, Kronish I. Depression and clinical inertia in patients with uncontrolled hypertension. *JAMA Intern Med*. 2014; 174(5):818–819. [PubMed: 24615061]
29. Dozois DJA, Rnic K. Core beliefs and self-schematic structure in depression. *Curr Opin Psychol*. 2015; 4:98–103.
30. Pham JC, Trueger NS, Hilton J, Khare RK, Smith JP, Bernstein SL. Interventions to improve patient-centered care during times of emergency department crowding. *Acad Emerg Med*. 2011; 18(12):1289–1294. [PubMed: 22168193]
31. Lateef F. Patient expectations and the paradigm shift of care in emergency medicine. *Journal of Emergencies, Trauma, and Shock*. 2011; 4(2):163–167.
32. Cofield SS, Conwit R, Barsan W, Quinn J. Recruitment and Retention of Patients into Emergency Medicine Clinical Trials. *Acad Emerg Med*. 2010; 17(10):1104–1112. [PubMed: 21040112]

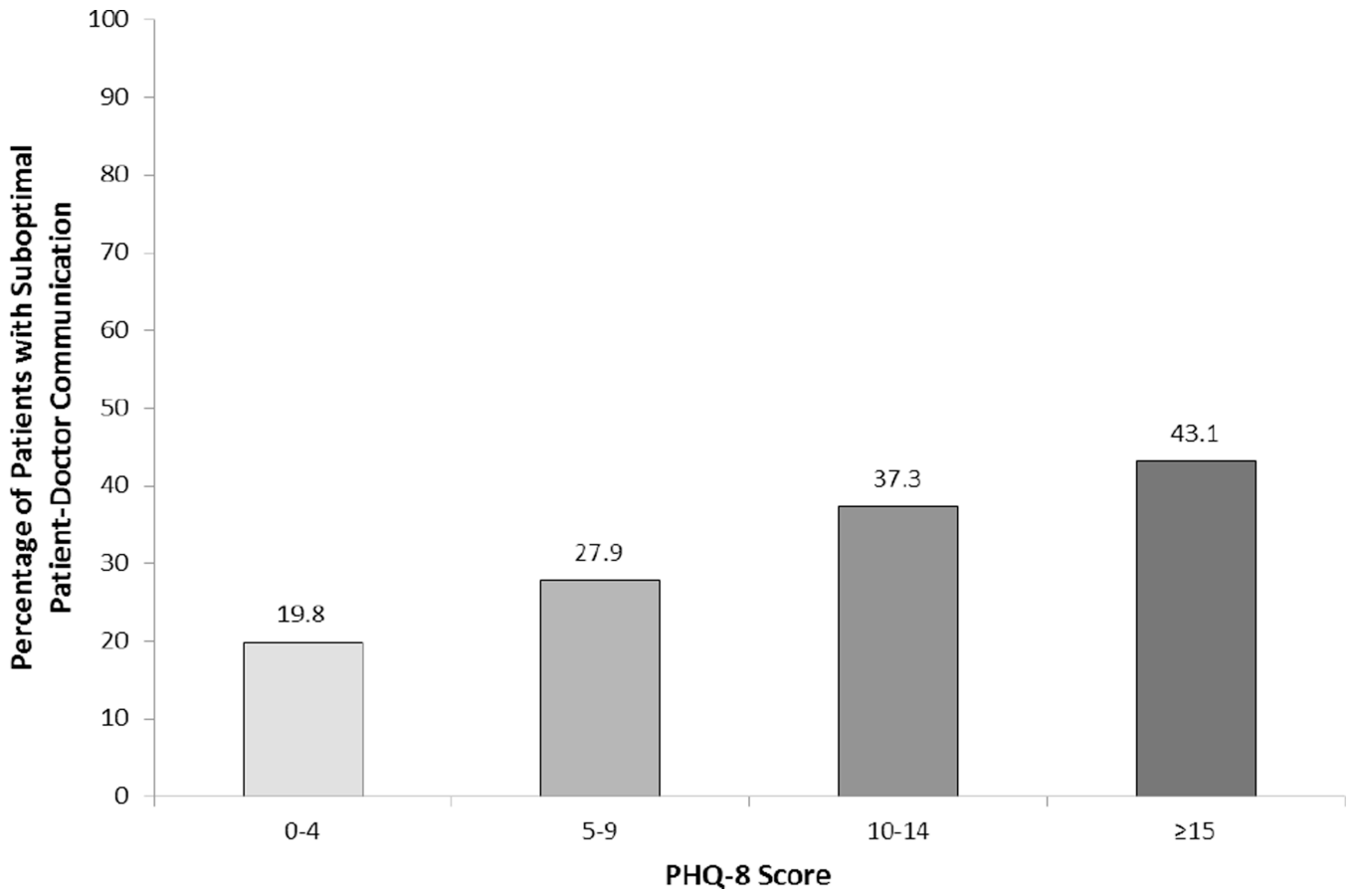


Figure 1. Percentage of patients reporting suboptimal doctor-patient communication according to severity of depressive symptoms. Suboptimal communication was defined as an average item score of 4. PHQ-8 refers to the 8-item Patient Health Questionnaire. $P < .001$ for a graded association.

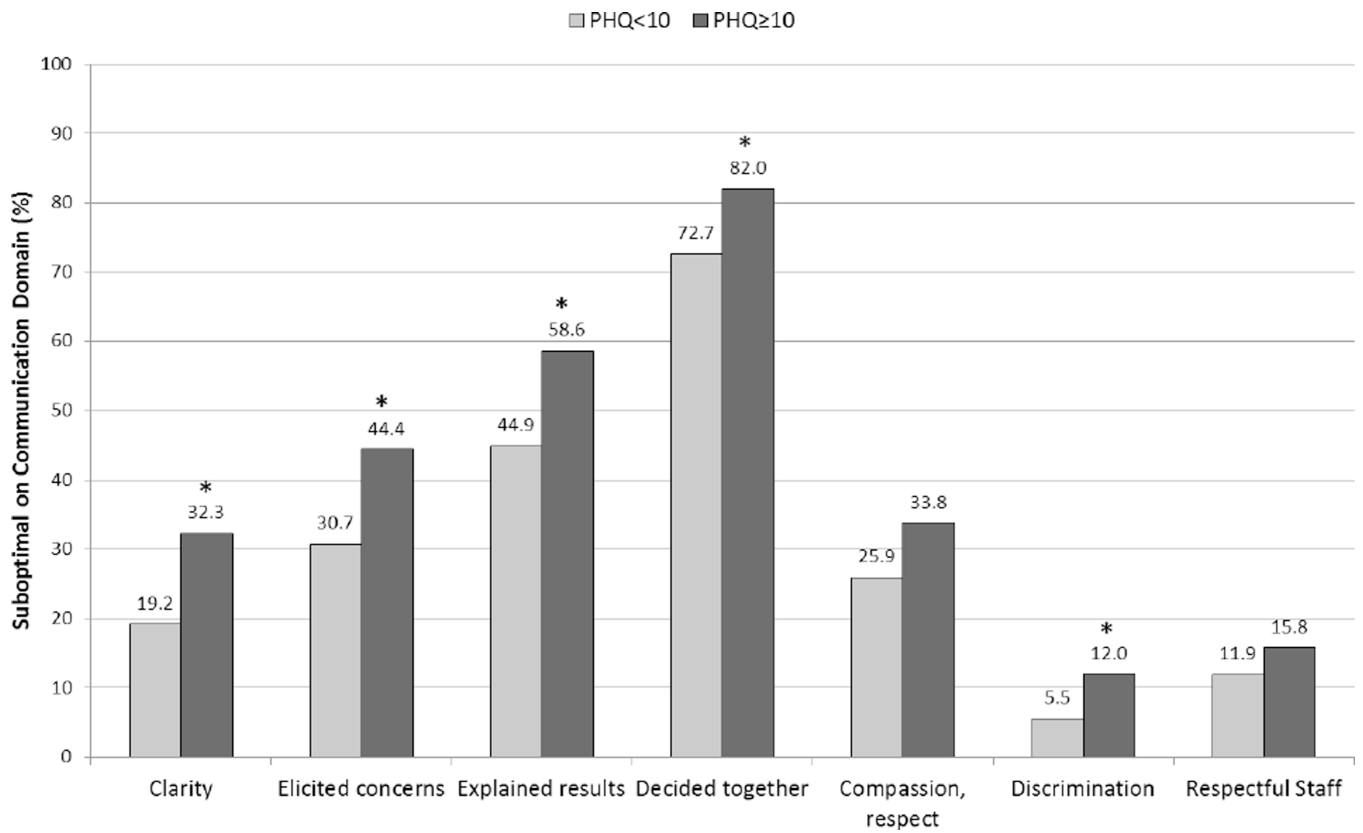


Figure 2. Percentage of patients reporting suboptimal communication on the seven subdomains of the Interpersonal Processes of Care survey. PHQ refers to the 8-item Patient Health Questionnaire. * indicates $p < 0.05$.

Table 1

Characteristics of Patients With and Without Elevated Depressive Symptoms (N=498)

Characteristic	Overall	Non-depressed (PHQ<10) N=365, 73.3%	Depressed (PHQ 10) N=133, 26.7%	P value
Age, mean (SD)	59.7 (12.7)	60.1 (12.9)	58.7 (12.2)	.28
Female	232 (46.6)	167 (45.8)	65 (48.9)	.54
Hispanic *	252 (52.7)	175 (49.4)	77 (62.1)	.02
White **	157 (35.2)	123 (37.2)	34 (29.6)	.14
Education				.03
Some high school or less	172 (34.5)	113 (31.0)	59 (44.4)	
High school diploma	116 (23.3)	90 (24.7)	26 (19.5)	
Some college or vocational	80 (16.1)	58 (15.9)	22 (16.5)	
College graduate or more	130 (26.1)	104 (28.5)	26 (19.5)	
Primary language non-English	224 (45.0)	159 (43.6)	65 (48.9)	.29
Charlson Score, mean (SD)	1.83 (2.11)	1.78 (2.06)	1.95 (2.23)	.42
Confirmed ACS	167 (33.5)	125 (34.2)	42 (31.6)	.58
Suboptimal communication	137 (27.5)	83 (22.9)	53 (39.8)	<.001

Data presented as N(%) unless otherwise specified.

* The denominator does not add up to 498 as 20 patients declined to state ethnicity.

** The denominator does not add up to 498 as 53 patients declined to state race.

Abbreviations: PHQ, Personal Health Questionnaire; ACS, acute coronary syndrome

Table 2
Unadjusted and Adjusted Association between Depressive Symptoms and Perceived Suboptimal Doctor-Patient Communication

Characteristic	Unadjusted Odds Ratio (95%CI)	95% CI	P-value	Adjusted Odds Ratio (95%CI)	95% CI	P-value
PHQ 0-4	1	-	-	1	-	-
PHQ 5-9	1.57	0.95-2.58	0.08	1.53	0.90-2.60	0.12
PHQ 10-14	2.41	1.36-4.26	0.003	2.66	1.42-4.99	0.002
PHQ 15	3.06	1.66-5.66	<0.001	3.28	1.67-6.42	0.001
Age	-	-	-	0.99	0.98-1.02	0.95
Female	-	-	-	0.90	0.58-1.39	0.63
White	-	-	-	0.82	0.51-1.33	0.42
Hispanic	-	-	-	1.30	0.66-2.57	0.45
Education high school or less	-	-	-	0.78	0.46-1.34	0.37
Primary language non-English	-	-	-	0.81	0.41-1.62	0.59
Charlson Score	-	-	-	1.00	0.90-1.11	0.98
Confirmed ACS	-	-	-	0.67	0.41-1.08	0.10

Abbreviations: PHQ: Patient Health Questionnaire; Charlson: Charlson Comorbidity Index