HHS Public Access

Author manuscript

J Psychosom Res. Author manuscript; available in PMC 2018 January 01.

Published in final edited form as:

J Psychosom Res. 2017 January ; 92: 63–66. doi:10.1016/j.jpsychores.2015.12.001.

Depressive symptoms and decision-making preferences in patients with comorbid illnesses

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Abstract

Objective—Shared decision-making (SDM) is increasingly promoted in the primary care setting, but depressive symptoms, which are associated with cognitive changes, may influence decision-making preferences. We sought to assess whether elevated depressive symptoms are associated with decision-making preference in patients with comorbid chronic illness.

Methods—We enrolled 195 patients ≥18 years old with uncontrolled hypertension from two urban, academic primary care clinics. Depressive symptoms were assessed using the 8-item Patient Health Questionnaire. Clinician-directed decision-making preference was assessed according to the Control Preference Scale. The impact of depressive symptoms on decision-making preference was assessed using generalized linear mixed models adjusted for age, gender, race, ethnicity, education, Medicaid status, Charlson Comorbidity Index, partner status, and clustering within clinicians.

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Financial Disclosures: none

Conflict of Interest: None

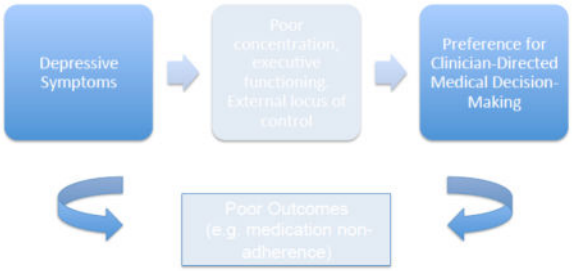
The authors have no competing interests to report.

Author Contributions: Dr. Nathalie Moise had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Moise, Kronish, Ye
Acquisition of data: Kronish, Moise
Analysis and interpretation of data: Moise, Kronish, Davidson, Ye, Alcantara
Drafting of the manuscript: Moise, Kronish
Critical revision of manuscript for important intellectual content: Moise, Kronish, Davison, Ye, Alcantara
Statistical analysis: Moise
Obtained funding: Kronish
Study supervision: Kronish

Results—The mean age was 64.2 years; 72% were women, 77% Hispanic, 38% Black, and 33% had elevated depressive symptoms. Overall, 35% of patients preferred clinician-directed decision-making, 19% mostly clinician-directed, 39% shared, and 7% some or little clinician-input. Patients with (vs. without) elevated depressive symptoms were more likely to prefer clinician-directed decision-making (46% versus 29%; p=0.02; AOR 2.51, 95%CI 1.30–4.85, p=0.005). Remitted depressive symptoms (vs. never depressed) were not associated with preference.

Conclusions—Elevated depressive symptoms are associated with preference for clinician-directed decision-making. We suggest that clinicians should be aware of this effect when incorporating preference into their communication styles and take an active role in eliciting patient values and exchanging information about treatment choice, all important components of shared decision-making, particularly when patients are depressed.

Graphical abstract



Keywords

depressive symptoms; shared decision-making; hypertension

Introduction

Shared decision-making (SDM) refers to a collaborative process whereby clinicians and patients make health decisions together by increasing awareness of options, exchanging information about best available evidence, exploring values and preferences, and finally making an informed decision.[1, 2] SDM has been heralded as a central aspect of patient-centered care by several groups, including the Institute of Medicine,[3, 4] and is a key approach to high-quality patient-physician communication, particularly when several evidence-based treatment options exist.

While many patients prefer collaborative styles,[5] some prefer more passive decision-making roles[6] and may require a prolonged deliberation process whereby physicians must balance advocacy for active participation with individual decision-making preferences.[1] Depressive symptoms are particularly prevalent amongst patients with chronic medical illnesses and are associated with worse health outcomes and medication non-adherence.[7–9] Characteristic cognitive aspects of depressive symptoms such as poor concentration and correlates such as low self-efficacy may influence decision-making preference.[10] However, the few studies to assess the impact of depressive symptoms on decision-making preferences have been in small samples of patients with heterogeneous mentally illnesses,[11, 12] and haven’t assessed differing impacts of active and remitted depressive symptoms.

[6, 12] A more granular assessment may be crucial to increasing the understanding of decision-making preference in this vulnerable patient group.

We aimed to assess the relationship between depressive symptoms and decision-making preference, and hypothesized that patients with (vs. without) elevated depressive symptoms would prefer clinician-directed decision-making.

Methods

Participants

Between 2011 and 2014, we enrolled a convenience sample of patients with uncontrolled hypertension [13] from two urban, academic hospital-based primary care clinics (Columbia University Medical Center and Mount Sinai Medical Center) as part of a study assessing barriers to antihypertensive medication adherence.[14] Eligible patients were ≥18 years old and prescribed ≥1 blood pressure (BP) medication. All patients who met criteria on chart review and whose clinicians consented were approached at their clinician visit. Key exclusion criteria were inability to self-manage medications (e.g., dementia or severe psychiatric illness), unavailability for follow-up interview (e.g., prolonged travel abroad) and research assistant measured BP at goal (average of the last two of three measurements). After confirming eligibility and obtaining written informed consent, research assistants completed a baseline questionnaire with the patient. This questionnaire included assessments of socio-demographics, depressive symptoms, and decision-making preference. The Institutional Review Board at both institutions approved the study.

Measures

Depressive symptoms were assessed using the 8-item Patient Health Questionnaire (PHQ-8). A score ≥10 is consistent with elevated depressive symptoms.[15] Remitted depressive symptoms were defined as a PHQ-8 score <10 and history of depressive symptoms based on physician chart review. Preference for decision-making was based on the Control Preference Scale, which ranged from strong clinician-direction to little clinician-input.[16]

Age, gender, race, ethnicity, years of schooling, insurance status, and partner status were based on self-report. Charlson Comorbidity Index was calculated from chart review.[17] Self-reported adherence was based on the 8-item Morisky Medication Adherence Scale.[18]

Statistical Analyses

Chi Square, independent sample t-tests, and Mann Whitney U tests were used to compare demographic, clinical, and behavioral variables by depressive symptoms status. Covariates for adjusted analyses were based on *a priori* hypotheses.[5, 19–21] Ordinal logistic regression was used to test the association between depressive symptoms (elevated vs. non-elevated) and preference for clinician-directed decision-making (strong clinician-direction to little clinician-input) (Model 1). We used a generalized linear mixed model to account for nesting of patients within providers and adjusted for age, gender, race, ethnicity, years of schooling, Medicaid status, Charlson Comorbidity Index, and partner status (Model 2). The proportional odds assumption was met in the unadjusted and adjusted models. In a subgroup

analysis, we compared the association between remitted depressive symptoms (vs. no documented depressive symptoms and PHQ-8<10) and decision-making preference. SAS version 9.2 (SAS Institute, Cary, NC, USA) was used for all analyses.

Results

Of 522 screened patients, 46 (8.8%) declined participation and 277 were ineligible due to: controlled BP on repeat measurement (35.0%); dementia or severe mental illness (11.9%); unavailability for follow-up interview (9.8%); deemed poor research subject by physician (e.g. extensive psychosocial stressors, unstable medical conditions) (12.3%); and other reasons (non-English and non-Spanish speaking, institutionalization, terminal illness; 31%). This left 199 patients who consented and completed a baseline interview, of which 195 had complete data for our final analyses. Those who refused (vs. consented) were less likely to be Hispanic (50.0% vs. 77.4%, p <0.0001) and female (60.9% vs. 69.9%, p=0.002), but more likely to be Black (65.2% vs. 47.7%, p=0.03).

The mean age was 64.2 (SD 9.1) years; 72% were women, 77% Hispanic, 39% Black, 84% carried Medicaid insurance; 33% had elevated depressive symptoms, 19% remitted depressive symptoms, and 29% low medication adherence. The mean number of comorbidities was 3.2 (SD 2.4) and median PHQ-8 score 7.0 (Interquartile Range 10). Elevated depressive symptoms were associated with low adherence. Overall, 35% of patients preferred strong clinician-directed decision-making, 19% mostly clinician-directed, 39% shared, and 7% some or little clinician-input (Table 1).

Forty-six percent of patients with (vs. 29% without) elevated depressive symptoms preferred clinician-directed decision-making (OR 1.91, 95%CI 1.10–3.33; p=0.02; adjusted OR [AOR] 2.51, 95%CI 1.30–4.85, p=0.005). Older age, black race, fewer years of schooling, and less comorbidity were also associated with preference for clinician-directed decision-making (Table 2).

In a subgroup analysis, 24% of those with remitted depressive symptoms (vs. 31% who never had depressive symptoms) preferred clinician-directed decision-making (OR 0.75, 95%CI 0.46–1.20, p=0.23; AOR 0.62, 95%CI 0.28–1.36 p=0.23).

Sensitivity Analyses

Given the low frequency of participants who preferred “some clinician input” (n=7) and “little clinician input” (n=6), we conducted sensitivity analyses in which we combined these preferences into a single category or excluded both. Whether combining or excluding participants, we found that depressive symptoms remained associated with preference for clinician-directed decision-making [AOR=2.51 (95%CI 1.30–4.83, p=0.007) and AOR=2.07 (95% CI 1.04–4.12, p=0.04), respectively]. Depressive symptoms as a linear variable also remained associated with preference for clinician-directed decision-making (AOR 1.07, 95% CI 1.02–1.13, p=0.01).

Discussion

In this sample of predominantly low-income, minority, urban patients with uncontrolled hypertension, we found that active but not remitted depressive symptoms were associated with preference for clinician-directed decision-making. Our study aligns with prior frameworks that suggest passivity and poor executive functioning may be core components of depressive symptomatology.[22] Our results differ from some previous literature on mental illness and active decision-making preference likely due to prior small samples of patients with heterogeneous mental illnesses lacking non-depressed comparator groups, [11, 12] and inadequate examination of uncontrolled comorbidities and clustering within clinicians.[6] We add to the literature by demonstrating that elevated depressive symptoms themselves not a history of depression affect preference. Further research is needed to understand the pathways linking depressive symptoms with decision-making preferences, which may allow physicians to better tailor communication styles when treating patients with elevated depressive symptoms and multiple comorbidities who face complex options.

Our study is important because research has shown that passive decision-making preference may be associated with worse outcomes,[23] which may partially explain why patients with elevated depressive symptoms have worse adherence,[7–9] as in our sample. Regardless of decision-making preference, amongst individuals with elevated depressive symptoms, SDM can be associated with increased probability of receiving guideline-concordant care and depressive symptom resolution.[24] How then should clinicians approach patients with depressive symptoms who prefer clinician-directed decision-making? Given potential benefits, we believe that clinicians should make special efforts to elicit preference and engage depressed patients in SDM, which begins with information exchange and value assessment prior to embarking on final decision-making.[25] Preference for passive final medical decision-making does not preclude preference for discussion of treatment choices, equally important for SDM and thus outcomes.[1, 25–27] Given that patients with elevated depressive symptoms may seek out less information or use fewer resources to support decision-making,[22] physicians should consider taking a more active role in information exchange. One study found using decision aids may mitigate the relationship between depressive symptoms and a patient's perception of their decision-making ability and thus comfort level.[22] Physicians can also consider using problem-solving therapy to improve depressive symptoms and thus SDM engagement. If patients continue to defer final decision-making, physicians should consider aligning their styles to patient preference [26] and strive to incorporate patient values into decision-making processes or involve family members [1], all resulting in true *shared* decision-making. In fact, congruence between decision-making preference and actual communication style of the physician may improve satisfaction and adherence.[28, 29] This strategy may also be used for subgroups of mostly older, minority, lower socioeconomic status patients who prefer clinician-directed decision-making,[6] as was also demonstrated in our study. In all, educational campaigns are integral to improving clinician proficiency in SDM communication styles.

There were several limitations to our study. Our sample of low-income, urban patients may not be generalizable to the broader population of primary care patients. Nevertheless, our study allowed for a granular analysis of multiple uncontrolled illnesses in the primary care

setting while examining remitted depressive symptoms and adjusting for physician-patient relationships, which has rarely been available previously. Another limitation is that our main outcome was assessed using a single item based on the Control Preference Scale, which provides a limited view of a patient's actual preference.[30] This measure of SDM preference, however, continues to be a widely used and validated scale of patient decision-making preference.[31]

In conclusion, amongst primary care patients with uncontrolled hypertension, most with elevated depressive symptoms preferred clinician-directed decision-making. Future studies should identify approaches that improve SDM in patients with elevated depressive symptoms.

Acknowledgments

Funding: This research was funded by the National Heart, Lung, and Blood Institute (NHLBI) (K23 HL-098359) and the American Heart Association (SDG 10SDG2600321). Dr. Ye received support from NHLBI (K23 HL121144). Dr. Moise received support from the Health Resources and Services Administration (T32HP10260). Dr. Alcántara received support from NHLBI (HL115941-01S1). Dr. Davidson received support from PCORI, NHLBI (5K24HL084034, R01 HL115941, R01 HL114924) and from ECRIP.

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Highlights

- Patients with elevated depressive symptoms prefer clinician-directed medical decision-making
- Cognitive symptoms of depression may affect decision-making preferences
- Physicians should be mindful of this association when incorporating patient preferences into the shared decision-making process
- Physicians should consider taking an active role in information exchange, value assessment, and review of treatment choices, all hallmarks of shared decision-making

Table 1

Patient Characteristics by depressive symptom status

Characteristics, N (%)	Total Sample (N=195)	Elevated depressive symptoms (n=65)	Non-elevated depressive symptoms (n=130)	P-value
Age, mean (SD), y	64.2 (9.1)	62.7 (9.4)	65.1 (8.6)	0.08
Female	141 (72%)	51 (78%)	90 (69%)	0.18
Black	75 (39%)	25 (38%)	51 (39%)	0.94
Hispanic	151 (77%)	53 (82%)	98 (75%)	0.28
Grade	9.2 (4.3)	8.6 (4.3)	9.5 (4.2)	0.13
Medicaid	**162 (84%)**	**59 (91%)**	**103 (79%)**	**0.04***
Married	55 (28%)	17 (26%)	38 (29%)	0.65
Charlson, mean (SD)	3.2 (2.4)	3.3 (2.5)	3.1 (2.3)	0.69
Low-adherence (SR)	**56 (29%)**	**29 (45%)**	**27 (21%)**	**0.003**
BP Medications, mean (SD)	2.6 (1.0)	2.6 (0.9)	2.5 (1.0)	0.70
Decision Preference				**0.02**
Strongly clinician-directed	68 (35%)	30 (46%)	38 (29%)	
Mostly clinician-directed	37 (19%)	11 (17%)	26 (20%)	
Collaborative approach	77 (39%)	21 (32%)	56 (43%)	
Some clinician-input	7 (4%)	3 (5%)	4 (3%)	
Little clinician-input	6 (3%)	0 (0%)	6 (5%)	

Data presented as N (%) unless otherwise specified.

SR self report; SD standard deviation

Table 2

Ordinal Logistic Regression modeling the association between depressive symptoms and preference for clinician-directed decision-making[a]

Variable	Model 1	P value	Model 2[b]	P value
Depressive symptoms(vs. No depressive symptoms)	1.91 (1.10, 3.33)	0.02	2.51 (1.30, 4.85)	0.005
Age (per year increase)			1.04 (1.00, 1.08)	0.04
Male			0.98 (0.49, 1.95)	0.70
Black			2.09 (1.03, 4.23)	0.04
Hispanic			0.78 (0.30, 2.04)	0.58
Years of Schooling			0.90 (0.83, 0.98)	0.009
Medicaid			0.92 (0.39, 2.17)	0.83
Charlson Comorbidity Index			0.88 (0.77, 0.99)	0.04
Partnered			0.91 (0.46, 1.84)	0.36

[a] Ordinal Logistic regression is modeling the odds of choosing lower numbers on the Likert scale (e.g. clinician-directed decision-making)

[b] Adjusts for clustering within primary care physicians and all of the covariates listed in the Table.