Published in final edited form as:

Psychiatr Serv. 2014 August 1; 65(8): 1041–1046. doi:10.1176/appi.ps.201300374.

Bipolar disorder in primary care: Clinical characteristics of 740 primary care patients with bipolar disorder

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Abstract

Objective—To describe the characteristics of primary care patients with bipolar disorder enrolled in a statewide mental health integration program (MHIP).

Methods—Using the Composite International Diagnostic Interview Version 3.0 and clinician diagnosis, 740 primary care patients with bipolar disorder were identified in Washington State between January 2008 and December 2011. Clinical rating scales were administered to patients at the time of enrollment and during treatment. Quality of care outcomes were obtained from a systematic review of the patient disease registry, and compared to a previous study of patients with depressive symptoms in MHIP. Descriptive analysis techniques were used to describe patients' clinical characteristics.

Results—Primary care patients with bipolar disorder had high symptom severity on depression and anxiety measures: Patient Health Questionnaire-9 (18.1 +/- 5.9) and the Generalized Anxiety

Disclosures: None

Prior Presentations: None

Disorder-7 (15.7 $\pm$ 4.7). Psychosocial problems were common, with approximately 53% reporting concerns about housing, 15% reporting homelessness, and 22% reporting lack of a support person. Referral to specialty mental health treatment occurred in only 27% of patients. Patients with bipolar disorder had a greater amount of contact with clinicians during treatment compared to patients with depressive symptoms from a prior study.

Conclusion—Primary care patients with bipolar disorder enrolled in MHIP had severe depression, symptoms of co-occurring psychiatric illnesses, and multiple psychosocial problems. Patients with bipolar disorder received more intensive care compared to patients with depressive symptoms from a prior study. Referral to a community mental health center occurred infrequently despite most patients having persistent symptoms.

Introduction

Psychiatrists can support primary care physicians in the treatment of patients with common psychiatric illnesses since many patients with these disorders present to primary care rather than specialty mental health settings (1,2). For example, depression can be effectively treated in primary care with interventions such as collaborative care where a psychiatrist supervises a care manager in treating a population of patients (2,3). Patients with depression and chronic medical illnesses treated in primary care with psychiatrist-supervised collaborative care show improved short and long term depression outcomes (3), reduced disability from depression (4), improved quality of life (5), and have lower total medical costs (6,7) compared to patients treated with usual care.

Partly due to this evidence, depression screening and treatment in primary care is gradually becoming standard clinical practice (8). However, primary care physicians, particularly those working in safety net settings, are often faced with treating patients with more complex and serious mental illnesses (9). Unfortunately, little is known about the quality of mental health care or the course of severe and persistent mental illnesses, such as bipolar disorder, among primary care patients. Two systematic reviews have shown that based on structured interviews bipolar disorder occurs in as many as 4.3% of general primary care patients and up to 10% of primary care patients with a psychiatric complaint (10, 11). It is important to accurately recognize patients with bipolar disorder in primary care systems because bipolar disorder treatments differ from treatments of other psychiatric illnesses such as major depression, and untreated bipolar disorder causes significant functional impairment.

Patients with bipolar disorder may initially present to primary care for general health care. The prevalence of chronic medical illnesses such as diabetes and hypertension is high among patients with bipolar disorder (12–14), and most patients generally obtain care for these conditions in primary care. Additionally, prior studies have shown that 7.6% of veteran patients with bipolar disorder (15) and an estimated 10 to 38% (16) of non-veteran patients with bipolar disorder receive mental health care exclusively in primary care. Compared to patients treated in specialty mental health settings, patients with bipolar disorder treated exclusively in primary care settings were less likely to receive mood

stabilizing medications, suggesting the need to improve quality of recognition and treatment for bipolar disorder in primary care for these patients (15).

In two longitudinal studies, patients with bipolar I disorder experienced depressive symptoms three times as often as manic or hypomanic symptoms, and 39 times as often in patients with bipolar II disorder, making it much more likely that a patient would present with depressive rather than manic or hypomanic symptoms (17, 18). Patients with bipolar disorder, particularly bipolar II disorder, who are experiencing depressive symptoms often present initially to primary care (19). Psychiatrists might offer critical support and supervision for primary care physicians encountering patients with bipolar disorder.

In this study we aimed to describe the clinical characteristics of a large sample of primary care patients with bipolar disorder enrolled in an integrated care program. Increased understanding of the clinical characteristics of patients with bipolar disorder in primary care settings and potential gaps in quality of care are the necessary first steps in the development of interventions to improve the quality of treatment for bipolar disorder in primary care.

Methods

Study Setting and Sample

The Washington State Mental Health Integration Program (MHIP) is a state wide program serving patients with medical, mental health and substance misuse needs (20). At the time of this study, MHIP provided psychiatric services to patients in 141 federally qualified primary care clinics. Adults eligible for MHIP treatment include recipients of state assistance for unemployment and persons with temporary disability. Other recipient populations of these services include some low-income adults, low-income mothers and their children, uninsured older adults and veterans and their family members enrolled in the participating community primary care centers. In Washington State, patients with Medicaid are eligible for care in community mental health centers and are therefore not included in the MHIP population. MHIP is supported by the State of Washington and Public Health of King County, and administered by the Community Health Plan of Washington. The program uses collaborative care based on the IMPACT model (2, 20) to improve recognition and systematic treatment of patients with psychiatric disorders in primary care settings. Mental health treatment provided in primary care is referred to as Level 1 care (L-1). Patients in MHIP can also be referred to one of 30 community mental health centers for a six month course of specialty mental health care termed Level 2 care (L-2). MHIP uses a web-based disease registry system that tracks visit dates, symptom ratings, medication use and other clinical measures (20). The disease registry facilitates systematic case reviews by consulting psychiatrists.

17,192 patients who were treated in MHIP between January 2008 and December 2011 were considered eligible for inclusion in this study. MHIP registries of all eligible patients were reviewed to obtain clinical information.

Bipolar disorder diagnosis

A bipolar case was defined as the presence of a documented diagnosis of bipolar disorder by the consulting psychiatrist, primary care physician, or care manager, and a positive result on

the semi-structured Composite International Diagnostic Interview Version 3.0 (CIDI) (defined as endorsing at least 1 of the stem questions, and endorsing 7 or more symptom questions) (21, 22). In MHIP, screening and case-identification measures including the CIDI are administered by the clinical care manager. Most care managers are mental health providers, social workers, or psychologists who are licensed or certified to provide clinical services in Washington State. Psychiatrist consultants review results of the care manager-administered measures, instruct care managers in appropriate use of each measure, and can request additional clinical information from the care managers through the use of standardized measures, clinical follow-up questions or general clinical information sources such as the medical record. Care managers receive initial and on-going live and recorded web-based training on the use of screening measures, brief psychotherapeutic interventions, and other clinical topics.

The CIDI is administered when clinicians are concerned about the possible presence of bipolar disorder. It was selected as the diagnostic evaluation for bipolar disorder in MHIP because in a national household survey, the CIDI was found to be highly concordant with the Structured Clinical Interview for DSM-IV with a kappa of .94 for any bipolar spectrum diagnosis (defined as bipolar I disorder, bipolar II disorder or subthreshold bipolar disorder symptoms), .88 for bipolar I disorder, and .88 for bipolar II disorder or subthreshold bipolar disorder symptoms (22). Of the 17,192 included patients in MHIP during the study period, 4191 (24%) received the CIDI. 740 patients were identified as cases.

Measurement, evaluation and comparison

Clinical rating scales were administered to patients at enrollment in the program, and throughout the treatment course in MHIP based on clinical status and recommendations by the consulting psychiatrist. Psychiatric history, treatment history and psychosocial factors such as employment history, living arrangements, and transportation access were assessed with clinical questions. Depression was measured in the majority of patients (n=719) using the Patient Health Questionnaire-9 (PHQ-9), and a score of 10 or more was considered consistent with a high likelihood of meeting criteria for major depression and/or dysthymia at baseline (23). Anxiety symptoms were measured in the majority of patients (n=703) using the Generalized Anxiety Disorder 7-item scale (GAD-7) with a 10 or greater showing the highest sensitivity and specificity for meeting criteria for one of four anxiety disorders (PTSD, panic disorder, generalized anxiety disorder or social phobia) (24). Substance use was measured using the Global Appraisal of Individual Needs - Short Screener (GAIN-SS) in most patients (n=689), and a score of 3 or more was considered representative of a high probability of current substance use problems (25).

Quality of care outcomes were obtained from a review of the web-based disease registry. We measured quality of care outcomes including the five measures used in another study on the MHIP population (26). The five quality of care measures from that study were: any follow-up contact within the first 2 and 4 weeks after initial evaluation, number of contacts in the first 4 weeks, total number of follow-up contacts during a treatment episode, and any psychiatric consultation during treatment (either a psychiatrist reviewing a patient's case or

an in-person consultation with the psychiatrist). Improvement in these five measures is associated with improved depression outcomes (26).

All patients with baseline PHQ-9 scores of 10 or more (n=649) were used to estimate the percentage of patients experiencing depression improvement. Depression improvement was defined as achieving a PHQ-9 score of less than 10 or a reduction in PHQ-9 score by 50% or more from baseline during the course of treatment in MHIP. Course of treatment included time from initial assessment until Level 1 treatment in MHIP or the study ended. Sixty-five (10%) patients with a baseline but no follow-up PHQ-9 measurement were considered to not have depression improvement. Our estimate adjusted for gender, age at enrollment, length of treatment during the study period, prior treatment history, current suicidal thoughts, and prior treatment for or current symptoms of anxiety, PTSD, substance use, chronic pain and psychosis.

Data Analysis

Descriptive techniques were utilized to describe the presenting characteristics of patients. Mean and standard deviation were calculated in STATA Version 12.0 (StataCorp, College Station, Texas). All analyses were conducted on de-identified data collected for quality improvement purposes and were not considered research requiring individual patient consent by the University of Washington's institutional review board.

Results

Seven hundred and forty patients with bipolar disorder were identified. Baseline demographic and clinical characteristics of these patients are presented in Table 1. Bipolar disorder patients commonly reported housing concerns and lack of dependable transportation. One-third of patients reported prior psychiatric treatment in inpatient facilities and over half had prior psychiatric treatment in outpatient settings.

Clinical characteristics

Results from standardized examinations are shown in Table 2. The mean PHQ-9 score of 18.1 +/- 5.9 indicated moderately severe depression. Fifty-eight percent of patients with bipolar disorder endorsed suicidal ideation on the PHQ-9 (score of 1 on item 9 of the PHQ-9), and 28% of patients reported suicidal ideation on more than half of days or nearly every day of the prior two weeks (score of 2 on item 9 of the PHQ-9).

Quality of Care Outcomes and Comparison to Previous Research

Overall, patients with bipolar disorder were treated in L-1 MHIP for a mean of 30.1 +/- 22.7 weeks, with 36% of patients receiving L-1 MHIP care for 33 or more weeks. Reasons for patient disenrollment from MHIP included new eligibility for Medicaid and SSI benefits (37%) and non-adherence with treatment (21%).

Referral to specialty mental health treatment at a collaborating community mental health center occurred in 27% of patients with bipolar disorder, and occurred in a mean of 17.2 +/- 18.7 weeks. The mean time from initial assessment to psychiatric consultation was 5.7 +/-

10.3 weeks among patients with bipolar disorder. Additional quality of care outcomes are shown in Table 3.

Approximately one third (33%, standard error (SE): .018) of patients with bipolar disorder with baseline PHQ-9 scores of 10 or more experienced significant clinical improvement in depressive symptoms (PHQ-9 score of less than 10 or a reduction in PHQ-9 score by 50% or more) during the time from initial MHIP assessment until Level 1 treatment in MHIP or the study ended.

We examined five quality of care measures associated with improved depression outcomes in prior research with MHIP (26) (Table 4). The prior study (n=7941) consisted mainly of patients with depression and was 52% female, had a mean age of 41.3 +/- 11.9 years, and a mean baseline PHQ-9 score of 18.1 +/- 4.8 (26). A higher percentage of patients with bipolar disorder had a clinical visit during the 2 week (61% vs. 56%) and 4 week (76% vs. 68%) periods after initial assessment, and patients with bipolar disorder had a greater number of contacts during treatment (6.9 +/- 7.8 vs. 5.7 +/- 7.3). Furthermore, consultation with a psychiatrist occurred in a greater percentage of patients with bipolar disorder (78% vs. 58%) than patients in this previously described MHIP population. Additionally, we conducted a sensitivity analysis leaving out 273 patients with the current study's case definition of bipolar disorder from the prior study sample (26) and found similar results.

Discussion

In this sample of primary care patients with bipolar disorder referred to a collaborative care mental health treatment program, most patients demonstrated moderate to severe depression, as well as co-occurring psychiatric disorders, especially anxiety disorders and substance use. Social vulnerabilities, such as homelessness and lack of transportation, were also highly prevalent.

The National Comorbidity Survey Replication (NCS-R) (27) showed that approximately 75% of patients with bipolar disorder had a lifetime history of any anxiety disorder. Specifically, generalized anxiety disorder, social phobia, panic disorder and PTSD occurred in 29.6%, 37.8%, 20.1% and 24.2%, respectively (27). Anxiety symptoms measured by the GAD-7 commonly occurred in our study, with most patients having a score of 10 or more. Additionally, the PTSD Checklist (PCL) was administered to a subsample (n=442) of patients, and over 90% of those administered the PCL had a score of 45 or more indicating a high likelihood of meeting the diagnostic criteria for PTSD (28). Although this result is from a subsample, it supports our finding that many of the patients had moderate to severe co-occurring anxiety symptoms such as symptoms of PTSD.

Previous studies have demonstrated that patients with bipolar disorder and co-occurring anxiety disorders are less likely to be euthymic, have a greater burden of depression symptoms, and may respond less to brief, but not more intensive, psychotherapeutic treatments compared to those without an anxiety disorder (29, 30). Enhancing the psychotherapeutic treatment of bipolar disorder and co-occurring anxiety in primary care

may be one way to reduce depressive and anxiety symptom burden in patients with bipolar disorder (30).

In the NCS-R, lifetime substance use disorders occurred in 42% of patients with bipolar disorder (27); a similar prevalence was found in a clinical sample (31). Almost one-half of the patients in our sample reported prior treatment for a substance use disorder or current substance use. Additionally, one quarter of the patients with bipolar disorder in our study demonstrated a high likelihood of current substance use problems measured by the GAIN-SS score of 3 or more. A score of 1 or more on the GAIN-SS captures a greater number of individuals with current substance misuse who would likely benefit from a substance use intervention but have not reached the level of severity of dependence (25). Over 40% of our sample had a GAIN-SS score of 1 or more. Because substance use in bipolar disorder has been associated with greater psychosocial impairment (32), improving functional outcomes in primary care patients with bipolar disorder likely requires assessment and treatment of co-occurring substance use problems.

Suicidal ideation occurred in 58% of patients with bipolar disorder, which is higher than the occurrence of suicidal ideation (45%) in a previous report on the overall MHIP population (33). Additionally, a higher percentage of patients with bipolar disorder (28%) reported experiencing suicidal ideation more than half of days or nearly every day compared to the sample of patients (22%) from the previous MHIP report (33).

Psychosocial impairments were common in our sample of patients with bipolar disorder, most notably, homelessness. Fourteen percent of patients with bipolar disorder reported being homeless and 41% reported staying with others or in a shelter. This is consistent with research findings from a large public mental health system showing homelessness in 17% of patients with bipolar disorder who received care in the San Diego county public mental health system (34). Our sample, which had a similar prevalence of homelessness, came from primary care settings, suggesting that homelessness is common among patients with bipolar disorder seen in primary care as well as mental health care safety net settings.

We also found MHIP patients with bipolar disorder experienced more intensive and perhaps higher quality treatment compared to MHIP patients with depression from a previous study of 7941 patients (26). The high occurrence of co-morbid psychiatric illnesses, suicidal ideation and substance use among the patients with bipolar disorder likely led to increased clinical contact during treatment. A higher number of clinical contacts, such as follow-up within 2 and 4 week periods from initial assessment and consultation with a psychiatrist, has been associated with better depression outcomes in MHIP (26).

Despite two-thirds of the patients with bipolar disorder having persistent depressive symptoms, only 27% of patients with bipolar disorder were referred to a community mental health center. Reasons for this low referral rate may include barriers to referral such as limited community mental health resources, and patients preferring to receive treatment in primary care.

Limitations

Limitations include that our sample only monitored patients who were referred to receive psychiatric treatment in a collaborative care model. Our sample may have been biased towards having greater illness severity, as disability or unemployment occurs in most patients referred to MHIP. Third, some patients with bipolar disorder may not have been included in the study sample. Additionally, it is possible that some patients in the bipolar sample did not have bipolar disorder as the positive predictive value of the CIDI in primary care ranges from 59–73% (21). We aimed to minimize the number of false positives by additionally requiring a documented clinician diagnosis of bipolar disorder. Finally, since we considered all patients with only a baseline PHQ-9 score as not having depression improvement, our depression improvement estimate may have been conservative.

Conclusion

Primary care patients with bipolar disorder experienced persistent depressive and anxiety symptoms despite higher intensity collaborative care treatment, but were infrequently referred to a community mental health center. Successful treatment of bipolar disorder in primary care may require additional clinical interventions aimed at either further improving the care delivered to patients in primary care or through more effective referrals to community mental health centers.

Acknowledgments

Grant support: This work was supported by a grant from the NIMH: T32-MH020021-16.

The authors would like to thank Community Health Plan of Washington (CHPW) and Public Health Seattle & King County for sponsorship and funding of the Mental Health Integration Program (MHIP) and for data on quality of care and clinical outcomes collected in the context of ongoing quality improvement.

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Table 1

Baseline demographics and clinical characteristics

	Patients with bipolar disorder (N=740)	
Age (Mean, SD)	38.9	10.6
	N	%
Gender		
Female	326	44
Patient reported concerns		
Lack of dependable transportation	235	32
Lack of support person	163	22
Concern about housing situation	390	53
Homelessness	110	15
Staying with someone, shelter, car, motel, other	302	41
Patient reported treatment history		
Inpatient psychiatric hospitalization (1 or more)	246	33
Outpatient psychiatric treatment	421	57
Substance abuse treatment	351	47
Patient reported prior treatment OR patient currently reports or demonstrates symptoms of:		
Bipolar disorder	549	74
Cognitive disorder	239	32
Psychosis	254	34
Post-traumatic stress disorder symptoms	430	58

Table 2

Baseline Standardized Examination Findings

Measure	Patients with bipolar disorder administered the scale	
	N or mean	% or SD
PHQ-9	N=719	
Mean, SD	18.1	5.9
10 or more	649	90
PHQ-9 item 9 (suicidal ideation) score		
0	305	42
1	215	30
2	106	15
3	93	13
GAD-7	N=703	
Mean, SD	15.7	4.7
10 or more	619	88
GAIN-SS	N=689	
Mean, SD	1.4	1.9
0	397	58
1–2	116	17
3 or more	176	26

PHQ-9: Patient Health Questionnaire 9; GAD-7: Generalized Anxiety Disorder 7; GAIN-SS: Global Appraisal of Individual Needs Short Screener;

Table 3

Quality of Care Outcomes

	Patients with bipolar disorder N=740	
	N or mean	% or SD
Follow up contact *		
Within 2 weeks	449	61
Within 4 weeks	559	76
Within 8 weeks	604	82
Time from initial assessment to 1st follow up contact (in weeks)	3.9	8.4
Number of follow up contact in the first 4weeks	1.4	1.2
Number of follow up contact in the first 8 weeks	2.4	1.9
Total number of follow up contacts during treatment	6.9	7.8
Case review by consulting psychiatrist		
Within 2 weeks	325	44
Within 4 weeks	411	56
Within 8 weeks	480	65
Any psychiatric consultation during treatment	575	78
Time from initial assessment to first psychiatric case review (in weeks)	5.7	10.3
Referral		
Referred to community mental health treatment center (L2 referral)	195	26
Time from L1 initial assessment to L2 referral (in weeks)	17.2	18.7

* Follow up contacts with care manager include in-clinic, by phone, in group and meeting with CM in other location

Table 4

Comparison of Quality of Care Outcomes from Current Study and Previous Study on MHIP Population

Variables	Current study (n=740)		Prior study of depressed MHIP patients (26) (n=7941)	
	N or mean	% or SD	mean (N's not provided in prior study)	% or SD
Any follow-up contact within 2 weeks after initial assessment	449	61		56
Any follow-up contact within 4 weeks after initial assessment	559	76		68
Number of follow-up contacts in first 4 weeks after initial assessment	1.4	1.2	1.3	1.3
Total number of follow-up contacts during treatment	6.9	7.8	5.7	7.3
Any psychiatric consultation during treatment	575	78		58