A Pilot Study Examining the Relationship Between Patients' Complaints and Scores on the Hirschfeld Mood Disorder Questionnaire

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Introduction: The incidence of bipolar disorder in the general population has been estimated at approximately 5%. The purpose of this study was to establish a relationship between patients' complaints on arrival to a primary care clinic and their subsequent scores on the Hirschfeld Mood Disorder Questionnaire (MDQ).

Method: After reviewing data obtained from 178 consecutive patients, 171 were found adequate for study inclusion. The inclusion criteria for this study were presentation to a family practice office for care regardless of complaint and age of 18 years or older. Study participants were asked to complete a historical/demographic questionnaire, which gathered data on primary and secondary complaints and medication history, and the MDQ.

Results: Thirty patients (17.5%) tested positive on the MDQ for bipolar symptoms; all were aged 65 years or under. Of those who tested positive, 20% (N = 6) presented with a primary complaint of anxiety or depression. Somatic primary complaints of pain and headache carried a high likelihood of secondary complaints of anxiety or depression.

Conclusion: Patients with complicated or multiple somatic complaints in primary care may also have concomitant undiagnosed bipolar disorder. Clinicians should use a high index of suspicion for the diagnosis of bipolar disorder when treating patients with these assessment characteristics. Further research is necessary to determine if these trends are applicable in a larger population.

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Less dramatic (bipolar II, bipolar not otherwise specified [NOS]) presentations of bipolar disorder than bipolar I comprise the majority of bipolar diagnoses. The incidence of bipolar disorder in the general population has been estimated in the literature at 5%.[1] Approximately 1% of all patients diagnosed with bipolar disorder meet criteria for bipolar I. The remaining patients are diagnosed as bipolar II or bipolar NOS or designated as bipolar III.[2] Bipolar III has not yet been classified in the *Diagnostic and Statistical Manual of Mental Disorders,* Fourth Edition (DSM-IV) but has been identified in the literature as bipolar symptoms exacerbated by use of antidepressants, mainly selective serotonin reuptake inhibitors.

The majority of primary care clinicians may find it difficult to identify bipolar tendencies in their practices. Due to the manifestation of bipolar disorder early in the lifespan, patients often dismiss these symptoms as trivial or may rationalize these behaviors, attributing them to unrelated causes. Therefore, patients may not present with a chief complaint of anxiety or depression until their symptomatology reaches severe levels. Patients with bipolar disorder may incur an 8- to 10-year delay in diagnosis from the actual onset of symptoms[3]; therefore, patients may present with complaints during the diagnosis delay interval that differ from symptoms traditionally associated with bipolar disorder.

The authors investigated the nature of patients' complaints in the population of a suburban family practice. The authors anecdotally noted that patients who were eventually diagnosed with bipolar disorder had presented with chronic somatic complaints rather than psychiatric complaints. The authors sought to investigate a possible correlation between somatic complaints and bipolar tendencies. The study was designed to assess primary somatic complaints and secondary medical diagnoses and to correlate those results with positive results on a commonly used screening tool for bipolar tendencies.

METHOD

Sample

A convenience sampling method was utilized for this study. Patients presenting to a primary care office who

Table 1. Age-Based Breakdown of Study Sample and Positive Responders to the MDQ

Age, y	Patients (N = 171) N	Positive Responders (N = 30) N (%)
18 to 24	11	5 (37.5)
25 to 34	25	7 (21.7)
35 to 44	37	5 (8.1)
45 to 54	42	8 (16.7)
55 to 64	29	5 (10.3)
65 and over	27	0

Abbreviation: MDQ = Hirschfeld Mood Disorder Questionnaire.

Table 2. Primary Complaints of the Study Sample (N = 171)

Complaint	N
Pain	52
Anxiety	5
Depression	13
Stomach problems	20
Headache	7
Acute illness	51
Diabetes	7
Hypertension	16

Table 3. Primary Complaints of Positive Responders to the MDQ (N = 30)

Complaint	Positive Responders, N
Pain	5
Headache	1
Stomach problems	6
Acute illness	9
Depression	6
Hypertension	3

Abbreviation: MDQ = Hirschfeld Mood Disorder Questionnaire.

Table 4. Mean Number of Medications Taken by All Patients (N = 171) in Each Primary Complaint Subgroup

Complaint Subgroup	Total Medications	Psychiatric Medications
Pain	2.4	0.4
Anxiety	2.6	1.8
Depression	2.1	1.2
Stomach problems	3.6	0.3
Headache	2.0	1.2
Acute illness	2.7	0.4
Diabetes	4.0	0.3
Hypertension	2.7	0.5

were 18 years or older were asked to complete a historical/demographic questionnaire and the Hirschfeld Mood Disorder Questionnaire (MDQ).[4] Patients were selected regardless of complaints or other extraneous factors.

The historical/demographic questionnaire, developed by the authors, collected data including age, sex, primary complaint and duration, secondary complaints (more than 1 could be selected), total number of medications taken, and number of psychiatric medications, if any (Appendix 1). The primary complaints available for the patient to choose from included pain, headache, stomach problems, illness, anxiety, depression, diabetes, and hypertension. The duration of complaint symptoms was graduated in intervals from 1 week or less to more than 1 year. The listing of secondary complaints was identical to the primary complaints; participants were instructed to circle all applicable secondary complaints. Participants also indicated the total number of medications taken and specifically identified the number of medications taken for anxiety or depression. This questionnaire served to collect historical and demographic data only and was not used in the determination of bipolar tendencies.

After taking the historical/demographic questionnaire, all participants then completed the MDQ.[4] The MDQ is a yes/no symptom-based questionnaire used to screen patients for tendencies compatible with bipolar disorder and to detect mania. This tool does not definitively diagnose bipolar disorder; however, positive MDQ results have been correlated with increased bipolar tendencies, suggesting the presence of bipolar disorder. Use of the MDQ, in conjunction with a thorough clinical interview, allows the practitioner to more objectively screen for bipolar characteristics. A positive response to 7 questions

on part 1 of the MDQ is 90% specific for bipolar disorder and carries a sensitivity of 70%.[4]

Anonymity in this study was ensured by the collection of nonspecific demographic data, complaint-based medication history query, and anonymous MDQ completion. At no time were data collected that would compromise the anonymity of subjects completing the study. This study was performed in an academically unaffiliated private practice. All patients provided written informed consent.

RESULTS

Patients presenting for care in a family practice setting commonly present with more than 1 complaint. The authors investigated the nature of complaints in a population of patients consecutively presenting for care and the relationship between complaints and scores on the MDQ.

Table 1 provides the age-based analysis of the study population and percentages of positive responders in relation to age. The study group included 103 women and 68 men. Of the sample group, 17.5% (N = 30) answered positively on 7 or more questions on part 1 of the MDQ. Diagnosis of new-onset bipolar disorder is rare in the 65+ age group; this was supported by the data analysis. Positive responders ranged from ages 18–64 years, with the highest prevalences in the 25–34 and 45–54 years age ranges.

Table 2 illustrates the distribution of primary complaints among the sample population. Somatic complaints of pain, headache, and stomach problems comprised 45.6% (N = 78) of primary complaints in the sample population. Participants presenting with psychogenic (anxiety and depression) complaints totaled 10.5%

Table 5. Mean Number of Medications Taken by the Positive (N = 30) and Negative (N = 141) Responding Groups

Complaint Subgroup	Positive Responders		Negative Responders		Difference Between the Groups	
	Total	Psychiatric	Total	Psychiatric	Total[a]	Total Psychiatric[a]
Pain	5.0	1.2	2.4	0.3	+2.6	+0.9
Anxiety	N/A	N/A	2.6	1.4	N/A	N/A
Depression	1.8	1.0	1.9	1.1	−0.1	−0.1
Stomach problems	2.7	0.2	3.2	0.3	−0.5	−0.1
Headache	5.0	2.0	2.0	0.8	+3.0	+1.2
Acute illness	2.9	0.8	2.8	0.4	+0.1	+0.4
Diabetes	4.0	0.0	4.0	0.3	0.0	−0.3
Hypertension	2.0	0.7	2.3	0.4	−0.3	+0.3

[a]The positive values indicate that positive responders took more medications than negative responders, and negative values indicate that negative responders took more medications than positive responders.

(N = 18). Participants identifying depression as a secondary complaint comprised 26.3% (N = 45) of the sample group.

Table 3 demonstrates the distribution of positive responders and their primary complaint. Of those patients answering 7 or more questions positively on part 1 of the MDQ (positive responders; N = 30), 20.0% (N = 6) presented with a chief complaint of anxiety or depression, and 38.1% (N = 8) identified a secondary complaint of anxiety or depression. Overall, 26.6% (N = 14) of positive responders listed anxiety or depression as a primary or secondary complaint.

Somatic complaints comprised 40% (N = 12) of the positive responders' primary complaints. Nine patients (30%) in the positive responder group complained of constitutional/acute illness. The total number of patients presenting with nonpsychogenic primary complaints was 24, representing 80% of the positive responder population.

The authors also queried patients regarding the number of medications taken, including the number of psychotropic medications. Table 4 demonstrates the mean numbers of total medications and psychotropic medications taken by all patients in each primary complaint subgroup. Table 5 illustrates the total number of medications and psychiatric medications taken by the positive and negative responders to the MDQ.

Study participants with diabetes took a mean of 4.0 medications daily, whereas patients who presented with stomach complaints took a mean of 3.6 medications per day. Participants presenting with anxiety and depression exhibited a higher mean number of psychotropic medications, most likely by virtue of the nature of the presenting complaint. Patients presenting with headaches reported a higher rate of psychotropic medication use than those patients presenting with a complaint of depression, but of note was the total headache population (N = 7) and the positive responders with headache (N = 1). Within the positive responder subgroup, patients with a complaint of pain and patients with a complaint of headache reported taking more total medications daily than other individual complaint subgroups (Table 5).

DISCUSSION

The authors found the number of positive responders on the MDQ for bipolar tendencies compelling. This finding suggests that bipolar disorder may be more prevalent in the primary care population than originally postulated; further research is necessary to confirm or refute this assertion. The authors found that the number of medications taken by the positive responders who had headache or pain as their primary complaints were higher than expected. This finding suggests that patients presenting with headache or pain who have no identifiable somatic mechanism for their primary physiologic complaint may benefit from screening for psychiatric illness, specifically for tendencies suggesting the presence of bipolar disorder.

Clinicians who rely on the primary complaint of the patient to dictate the course of the visit may be far less likely to diagnose occult bipolar disorder. The findings of this study revealed that only 20% of positive responders complained of anxiety or depression as their primary complaint and 66% of positive responders had a psychogenic complaint as either their primary or secondary complaint. These findings indicate that even though the primary complaint may not be of a psychogenic nature, the secondary complaint often suggests psychogenic involvement. Primary care clinicians should examine secondary complaints as a possible link to underlying psychogenic pathology when there is no physiologic locus for patients' primary complaints.

Comorbid bipolar disorder appeared to be more likely in the subset of patients with primary complaints of both pain and headache that took 5 or more medications daily. However, the limited study size and design preclude any general statements regarding this correlation, and further evaluation in a larger study is needed to validate this finding.

Twelve of the 30 positive responders on the MDQ reported a preexisting history of bipolar disorder. From this subgroup, 9 of 12 patients had 7 or more positive responses and 2 of 12 patients had 6 positive responses. These findings suggest that the MDQ is a reliable screen-

ing tool for use by primary care clinicians to aid in the diagnosis of bipolar disorder.

Limitations of the study include regionality, sample size, and the use of nonspecific complaint categories (e.g., acute illness). In addition, the historical/demographic assessment tool has not been tested or validated and was developed solely for the purpose of this study. Furthermore, there are other variables, which were not queried, that may impact the patient's psychological status, such as family history and history of previous psychological or physical trauma. The study design also did not allow analysis for presence of other mood disorders. The authors believe that other psychiatric illness states may also lead to somatic complaints in the primary care setting; however, the occult nature of bipolar symptoms in comparison to other mood disorders suggests a higher tendency toward somatic presentations in patients with bipolar disorder. In addition, no follow-up mechanism is in place due to the anonymous nature of the study. No other studies with a similar focus or design were discovered in an extensive MEDLINE literature search.

The results of this study indicate that bipolar characteristics and tendencies may be present in many patients presenting to primary care offices; the authors feel that more research in this setting is necessary prior to recommending that screening for bipolar disorder be universally performed in the general family practice population. Additionally, the authors suggest that screening tools be developed, refined, and extensively tested to assist with diagnosis of mood disorders. Ideally, these tools would be of short duration, with appropriate specificity and sensitivity, and practical for use in the primary care setting. Further study is needed with a validated, improved information-gathering device, which would delineate the patients who complain of illness into various subsets to aid in data analysis. The authors further suggest that a more efficient method to screen for bipolar disorder in primary care may be to focus not only on primary psychogenic complaints, but also on secondary psychogenic complaints and specific primary somatic complaints of headache and pain. Particular attention should be given to individuals who have taken multiple medications with limited success. Primary care practitioners should screen for bipolar disorder more frequently. Risk-factor and behavior assessments, as well as use of an appropriate screening tool, may allow more rapid diagnosis and treatment of the pervasive, debilitating effects of bipolar disorder.

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Appendix 1. Demographic Questionnaire

Age:	18–24	25–34	35–44	45–54	55–64	65+

Sex:	M	F

Reason for visit: (choose only one)

Pain	Anxiety	Depression	Stomach Problems	Headache	Illness	Diabetes	Hypertension

How long has this problem been going on?

Less than 1 week	1 wk to 1 month	1–3 months	3-6 months	6–12 months	Over 1 year

Do you have any other problems? (circle all that apply)

Pain	Anxiety	Depression	Stomach Problems	Headache	Illness	Diabetes	Hypertension

Circle the total number of medications that you currently take.

0	1	2	3	4	5	6	7	More than 7

Circle the number of medications that you currently take that are to help with anxiety or depression.

0	1	2	3	4	5 or more