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Does Screening with the MDQ and EPDS Improve Identification of Bipolar Disorder in an Obstetrical Sample?

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Abstract

Background—Women with Bipolar Disorder (BD) are at high risk for postpartum affective episodes and psychosis. Although validated screening tools are available for postpartum unipolar depression, few screening tools for hypomania/mania exist. Screening tools for BD in the postpartum period are essential for improving detection and planning appropriate treatment. We evaluated whether adding the Mood Disorders Questionnaire (MDQ) to the Edinburgh Postnatal Depression Scale (EPDS) increased the identification of BD in the early postpartum period.

Methods—Women (N=1279) who delivered a live infant and screened positive on the EPDS and/or MDQ at 4–6 weeks post-birth were invited to undergo an in-home Structured Clinical Interview for DSM-IV (SCID).

Results—Positive EPDS and/or MDQ screens occurred in 12% of the sample (n=155). In home SCID diagnostic interviews were completed in 93 (60%) of the mothers with positive screens. BD was the primary diagnosis in 37% (n=34). Women with BD screened positive on the EPDS and/or MDQ as follows: EPDS+/MDQ+ (n=14), EPDS+/MDQ– (n=17), and EPDS–/MDQ+ (n=3). The MDQ identified 50% (17/34) of the women with BD and 6 additional cases of BD when the MDQ question regarding how impaired the mother perceived herself was excluded from the screen criterion.

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The remaining authors report no conflicts.

Conclusion—Addition of the MDQ to the EPDS improved the distinction of unipolar depression from bipolar depression at the level of screening in 50% of women with traditional MDQ scoring and by nearly 70% when the MDQ was scored without the impairment criterion.

Keywords

postpartum; depression; bipolar; screening; manic-depressive; postnatal

Introduction

Childbearing, a major biopsychosocial event, has far-reaching impacts on women's physical health and mental well-being.¹ With a period prevalence of 19.2% in the first three months postpartum,² depression is a common complication of childbirth. Far less research has focused on differentiating women with postpartum depression in the context of Bipolar Disorder (BD) than in unipolar disorders. Because the postpartum period carries the highest lifetime risk for onset or recurrence of BD^{3, 4} and psychosis,^{3–5} it is both a critical and an opportune time to screen for BD. Compared to non-postpartum women, the relative risk of psychiatric admission within the first 30 days postpartum is 23-fold for women with BD, while 30–60 days post-birth carries an admission risk of 6.3.⁴ Fifty to 70% of women with BD will have a recurrence in the postpartum period.⁵ Furthermore, women with BD are at greater risk for postpartum psychosis which occurs after 25–50% of births in women with BD—a 100-fold increase over the rate in the general population.⁵

Reasons for the extreme vulnerability of women with BD for post-birth decompensation are unknown. The massive gonadal steroid withdrawal that occurs with delivery contributes to mood instability in these neurobiologically sensitive⁶ and genetically^{7–9} vulnerable women. Sleep deprivation and disruption of circadian rhythms in late pregnancy, labor, and breastfeeding also promote mood destabilization.¹⁰ Due to the multiple factors that increase vulnerability post-delivery, it is crucial to identify women with BD promptly to provide treatment and reduce morbidity.

When patients who screen positive for depression have BD but are treated for Major Depressive Disorder (MDD), the outcome may be worse than no treatment, and the benefit of “depression” screening is diminished.¹¹ Antidepressant drug monotherapy in women with BD may precipitate rapid cycling, mania, or mixed states.¹² The recognition and diagnosis of BD is necessary to drive adequate treatment.¹³ Although many people with BD receive treatment for comorbid mental disorders, lack of recognition of BD results in few receiving appropriate treatment.¹⁴ Half of women with “treatment resistant” postpartum depression that is refractory to treatment actually suffer from BD.¹² Thus, more comprehensive screening for BD is urgently needed for women treated for other Axis I disorders.¹⁴

Screening for postpartum unipolar depression is common and mandated in some American states.^{15, 16} The most well-known and most widely used measure world-wide is the Edinburgh Postnatal Depression Scale (EPDS)¹⁷, which is: 1) brief (10 items), 2) easily scored, 3) free, 4) available in 23 languages, and 5) used in various socioeconomic groups.¹⁸ A cutpoint of 10 is recommended for settings with resources to assess women with positive screens and 13 for settings with limited clinical capacity for post-screening evaluation.¹⁹

Since the publication of the EPDS in 1987, a large literature has accrued and three systematic reviews of validation studies have been published.^{18, 20, 21} Although the EPDS screen was designed to identify depression it does not designed to differentiate between bipolar and unipolar depression states. Our team showed that 22% of women who screened positive on the EPDS at 10 had a diagnosis of BD according to the Structured Clinical Interview for DSM-IV (SCID).²²

In contrast to screening for unipolar postpartum depression, few instruments have been validated to screen for BD after birth. In the general population of patients with mood disorders, BD screening is most frequently conducted with the Mood Disorders Questionnaire (MDQ)²³, which assesses lifetime history of mania and hypomania with a checklist of 13 symptoms reflecting DSM-4 criteria and two supplementary questions: a yes/no query about whether symptoms occurred during the same time period, and a designation of the magnitude of the resulting problems (none, minor, moderate, serious). A positive screen requires 7 symptoms during the same period that caused moderate or serious problems. The psychometric properties of the MDQ vary with the population studied, and the sensitivity (especially for BD II) was improved by altering the original scoring schema without decreasing specificity.²⁴ With original scoring, sensitivity for BD=76% (BD I=83%, BD II=67%, and specificity= 86%),²⁴ however, at 9 symptoms with no supplementary questions, the sensitivity =90% and 88% for BD I and 2, respectively, and specificity=90%.^{24, 25} Additional studies are needed to clarify the optimal cutpoints on the MDQ for screening for BD in non-treatment seeking populations. For hypomania, both the DSM-4 and the DSM-5, requires a change in function but not impairment; therefore, the problem severity rating (required for a positive designation on the original MDQ) reduces the number of individuals who screen positive for BD II.²⁴ Because 73% of women who develop postpartum psychosis experience early symptoms of hypomania,¹² the use of a sensitive screening measure is vital to identify this group of women.

Screening assessments for BD in the perinatal population have been explored in only two recent studies and both have used the MDQ. Sharma and Xie²⁶ gave women with a diagnosis of MDD (N=68) or BD (N=57) the MDQ at 2–4 weeks after delivery. The MDQ yielded a sensitivity of 75% and specificity of 87% with the original scoring criteria. However, the optimal cut-off score was 8 symptoms without the two supplementary questions (sensitivity=88%, specificity= 85%). Frey et al.¹³ investigated the sensitivity and specificity of the MDQ in perinatal women (n=150) referred to a women's mental health clinic. Modified scoring of the MDQ including 7 symptoms and no supplemental questions resulted in a sensitivity of 89% and specificity of 84%. As in these reports, the majority of studies of the MDQ in the general population have been done in clinical samples.²⁷

In this investigation, we addressed two key questions: 1) In a diverse sample of postpartum women from an obstetrical population, does screening with the MDQ in addition to the EPDS provide added value for identifying BD? 2) What are the primary and secondary psychiatric diagnoses in women who screen positive? Our goals were to use the MDQ with the EPDS as a screening tool set to identify both depression and a lifetime history hypomania/mania episodes in postpartum women. Screen result possibilities included: (a) EPDS+/ MDQ+; (b) EPDS–/ MDQ+; (c) EPDS+/ MDQ –, and (d) EPDS–/MDQ+. We

hypothesized that administering the MDQ in addition to the EPDS in postpartum women would increase identification of women with BD.

Methods

The parent screening study has been described in detail²². This study of the EPDS plus MDQ as a combined tool immediately followed completion of the parent investigation and included a separate sample of mothers. Women who delivered at Magee Women's Hospital in Pittsburgh, PA between 10/3/2011 and 3/23/2012, were visited by a nurse or social worker on the labor and delivery unit and offered phone screening at 4–6 weeks post-birth. An intense effort was made to reach the participants who had agreed, with day and evening calls made to each between 4–6 weeks postpartum. A postcard encouraging the mother to call was sent to women who were not reached after 3 days. If the woman was not reached by week 6, she was removed from the contact list and no further contact was attempted. Telephone screens were administered by college graduates who were trained to give the EPDS and MDQ and were supervised by experienced Master's level psychiatric clinicians.

The telephone screen yielded four possible screening status combinations (EPDS+/ MDQ+; EPDS–/ MDQ+; EPDS+/ MDQ–; EPDS–/ MDQ–). The first three categories were classified as positive screens, while the final category was a negative screen. A positive EPDS was a score of ≥ 10 . The MDQ was scored positive according to criteria²³ (MDQ ≥ 7 symptoms with the two positive supplemental questions: symptoms occurring at the same time, and causing at least moderate problems). Women with positive screens were offered a home visit within 2 weeks of the screen. Any woman who scored EPDS ≥ 20 or endorsed any response other than “none” on the item related to suicidality was immediately interviewed by the supervising clinician for safety assessment and disposition.

Mothers who agreed to a home visit provided written informed consent and completed a SCID assessment. The SCID established the primary and secondary (comorbid) psychiatric diagnoses. Evaluations were administered in participants' homes by a Master's level clinician, while a research assistant provided childcare. Although clinicians who performed the SCID assessments were aware that the subject screened positive, they were blind to the subjects' screen status combination as it related to specific EPDS and MDQ scores. All diagnostic assessments were reviewed with a board certified psychiatrist.

Statistical Analysis

A frequency analysis was completed for the three screen-positive categories: EPDS+/ MDQ +, EPDS+/ MDQ –, and EPDS–/ MDQ+. Additionally, the number of screen positives for each screen positive category was determined when the second supplemental question on impairment from the original MDQ screening algorithm was excluded. Demographic characteristics were evaluated across groups and with pairwise comparisons with the Bonferroni correction (Table 1). To assess generalizability, the demographic variables were also compared for screen positive women who accepted vs. those who declined the home visit (Table 2). Primary and secondary diagnoses (Table 4) of screen positive women were grouped in the following categories: 1) anxiety disorders, 2) bipolar disorders, 3) depressive disorders, 4) substance use disorders, and 5) other diagnoses.

Results

Sample Characteristics

Of 2040 mothers who agreed to be contacted, 1279 completed the screen (Figure 1). Of those screened, 155 screened positive on either the EPDS or MDQ, and 1117 screened negative on both the MDQ and EPDS. Positive screens on the EPDS and MDQ were distributed as follows: EPDS+/ MDQ+ = 28; EPDS-/ MDQ+ =14; EPDS+/ MDQ- =113. Home visits were completed by 93 (60%) of the screen positive women. This rate was equivalent to that in the parent study.²²

Demographics

The demographic characteristics of women across the four EPDS/MDQ score categories (Table 1) differed significantly except in the representation of Hispanic women. Significant differences were found for post-hoc pairwise comparisons between screen-positive (any of the three possibilities) women compared to women with negative screens. Women who were African-American, younger, less educated, publicly insured/uninsured, or unmarried were significantly more likely to score positive on one or both the EPDS and MDQ compared to participants with a negative screen. Additionally, uninsured and publicly insured participants scored positive on both self-reports significantly more often than participants who scored positive on the EPDS alone. Similar to screen-positive women, subjects who completed a home visit were significantly more likely to be African-American, younger, publicly insured, single, and without differences in education or Hispanic heritage.

Diagnoses of Screen-Positive Women

A SCID interview was administered to the 93 women who completed a home visit. Primary diagnoses of home-visited women included unipolar depression (n=42, 45%), BD (n=34, 37%), anxiety disorders (n=8, 9%), and substance use disorders (n=3, 1%) (Table 4). A small subgroup of women (n=6, 6.5%) did not have a DSM-4 diagnosis. Among women with primary BD, most women had BD I (41.2 % of women with BD) followed by BD II (29.4%), BD NOS (26.4%), and Schizoaffective, bipolar type (2.9%).

Comorbid anxiety disorders (Table 4) were common among women with unipolar depression (71.4%) and BD (85.3%). Among women with BD, the most common secondary anxiety diagnoses were Generalized Anxiety Disorder (n=18, 52.9%), PTSD (n=11, 32.3%), and Obsessive-Compulsive Disorder (n=10, 29.4%). Secondary diagnoses in women with BD also included substance use (n=5, 14.7%).

Bipolar Disorder Diagnosis and Screen Category

Screen-positive categories for BD were as follows: EPDS+/MDQ+ (n=14), EPDS+/MDQ- (n=17), and EPDS-/MDQ+ (n=3). The MDQ identified 50% of women with BD (Table 2). To determine if we could increase the identification of BD in this postpartum sample, we examined whether excluding the second supplemental question on impairment from the original MDQ screening algorithm would increase positive screens. With the adjusted criteria, women with primary BD screened positive as follows: EPDS+/ MDQ+ (n=20), EPDS+/ MDQ- (n=11), and EPDS-/ MDQ+ (n=3). BD was confirmed in an additional 6

cases which increased recognition of BD cases in the sample to 67.6%. These additional BD cases were in the EPDS+/ MDQ+ screen category and the following subtypes were included: BD I (n=2), BD II (n=2), and Bipolar, NOS (n=2).

Discussion

Screening and diagnosis of BD are the first stages of a comprehensive treatment program that spans case identification, diagnostic evaluation, treatment preference determination and provision of acceptable and accessible evidence based interventions to achieve and sustain recovery.²⁷ Given that many postpartum depression screens are completed in primary care offices and antidepressant treatment is a common intervention, the need for additional BD screening is vital to reduce misdiagnosis and inappropriate treatment of bipolar illness. Keck²⁸ reviewed the literature on the economic effects of unrecognized or inadequately treated BD and highlighted the need to improve identification and management of this disabling disorder. The costs of inappropriate treatment of BD provide empirical support for screening all patients diagnosed with depression for BD before initiating treatment.

When used with the EPDS, positive MDQ screens identified half (50%) of women diagnosed with BD. Similar to prior studies,²⁹ omission of the functional impairment question increased the capacity of the MDQ to identify cases of SCID-diagnosed BD, yielding an approximate 20% (67.6% of BD cases) increase in the number of identified BD cases. The additional screen-positives on the MDQ identified women across the bipolar spectrum, including BD I, BD II, and BD NOS. As shown in previous investigations^{20, 29, 30} BD II and BD NOS were, collectively, the most common diagnoses excluded with the impairment criterion. Although the assumption has been that patients with BD I perceive themselves as impaired, our study suggests that a self-report of impairment may be variable across the bipolar spectrum and in non-treatment seeking postpartum women. These findings demonstrate that MDQ increases the identification of BD and exclusion of the impairment criterion allows for increased recognition of BD in vulnerable women.

Screen-positive women were significantly more likely to be African-American, younger, less educated, publicly insured/uninsured, or unmarried. Psychosocial factors including low socioeconomic status and lack of perceived support have consistently been associated with increased risk of postpartum depression.^{31–33} Women with less education may be at increased risk due to lack of awareness and access to appropriate resources. Similar to screen positive women, women who screened positive and completed a home visit, were significantly more likely to be African-American, younger, publicly insured, and single. Although many women receive public insurance while pregnant, many lose insurance coverage within months postpartum.^{34, 35} Publicly insured women in the study may have been more likely to complete home visits due to the lapse in health insurance and, thus, lack of mental health care access. The lapse in public health insurance postpartum reflects a public health imperative to expand insurance coverage and services for this population of women who may not otherwise receive treatment. Additionally, socioeconomic status accounts for the increased rates of postpartum depression in African-American women and may explain the increased rate of screen-positive outcomes and acceptance of home visits

among African-American women compared to Caucasian women and women with Hispanic heritage in the study.³⁶

The identification of BD by self-report is limited. Half (50%) of the women with BD did not score positive on the MDQ. Recall bias is a limitation of the MDQ^{37, 38} and the reliability of the MDQ decreases two years after the most recent manic/hypomanic episode.³⁷

Additionally, patients' perceptions of BD symptomatology may be inconsistent with diagnostic classification. Mixed states are prevalent among women with BD but remain a challenge within our field with respect to a consistent definition and standardization of the diagnosis. Because the predominant symptoms may be depressive, patients may recall experiences of mixed episodes as depression which would make the identification of BD in these patients unlikely.

The limited number of BD patients recognized by the MDQ also reflects the need for more sensitive self-report tools. Eleven self-report tools for BD exist.^{39–49} However, most of the scales do not distinguish between mania and hypomania and none have been validated in the perinatal population.⁵⁰ An alternative to the MDQ for screening in postpartum women is the Highs Scale⁴³, which is the only instrument to be investigated systematically among the perinatal population and designed specifically for the perinatal population. However, the Highs Scale requires further validation. Validation of available screening tools in the perinatal population are needed particularly in primary care settings where further psychiatric evaluation may not be possible.

The strengths of our study include the use of the MDQ screen in a community sample of newly delivered women and the use of the SCID to confirm diagnoses in women with positive screens. It is also the first study, to our knowledge, to investigate the utility of adding the MDQ to the EPDS. Although the generalization of these findings are limited by our relatively small sample size, the authors recommend use of the MDQ in addition to the EPDS to screen all postpartum women to increase recognition of BD and decrease the number of women receiving inappropriate treatment. Exclusion of the impairment criterion on the MDQ screen should also be considered to increase the sensitivity of identification of BD in postpartum women.

We found that women who were EPDS screen positive and MDQ screen negative were more often diagnosed with a depressive disorder than women that screened positive on the MDQ. Thus, clinicians should send patients with MDQ positive screens for psychiatric evaluation and consider starting medication in those patients that only screen positive on the EPDS. Future studies should include a SCID assessment of screen negative women to determine the sensitivity and specificity of the MDQ and detection of postpartum women with BD.

Conclusion

A large proportion of postpartum women who screened positive on the EPDS and/or the both MDQ in our community sample were SCID diagnosed with BD. The MDQ aided in identification of BD and underscores the requirement of BD screening in postpartum

women. The MDQ is useful in combination with the EPDS and should be used to help assess risk and inform further evaluation for postpartum women.

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Figure 1.

Table 1

Demographic measures by EPDS and MDQ status.

Measure	EPDS/MDQ					Probability Values							
	Pos/Pos (N=28)	Pos/Neg (N=113)	Neg/Pos (N=14)	Neg/Neg (N=117)	Over- All	Pairwise comparisons							
						PP v PN	PP v NP	PP v NN	PN v NP	PN v NN	PN v NN	NP v NN	NP v NN
Age	24.4 ± 5.1	28.6 ± 5.3	27.1 ± 7.5	30.0 ± 5.4	<.001	<.001*	0.169	<.001*	0.372	0.007*	0.007*	0.179	0.179
Race					<.001	0.088	0.527	<.001*	1.000	<.001*	<.001*	0.089	0.089
White	12 (42.9)	74 (65.5)	9 (64.3)	928 (83.1)									
Black	12 (42.9)	30 (26.5)	4 (28.6)	136 (12.2)									
Other	4 (14.3)	9 (8.0)	1 (7.1)	53 (4.7)									
Hispanic	2 (7.1)	3 (2.7)	1 (7.1)	25 (2.2)	0.136								
Education (level)					<.001	0.027	0.177	<.001*	0.081	<.001*	<.001*	<.001*	<.001*
<High school	7 (25.0)	10 (8.9)	0 (0.0)	23 (2.1)									
High school	8 (28.6)	27 (24.1)	5 (35.7)	143 (12.8)									
Some college	10 (35.7)	32 (28.6)	8 (57.1)	254 (22.8)									
College	1 (3.6)	24 (21.4)	1 (7.1)	376 (33.7)									
Graduate school	2 (7.1)	19 (17.0)	1 (7.1)	320 (28.7)									
Medical insurance					<.001	0.010*	0.423	<.001*	0.063	<.001*	<.001*	<.001*	<.001*
Private	6 (24.0)	57 (54.3)	4 (28.6)	814 (76.9)									
Public	19 (76.0)	47 (44.8)	9 (64.3)	238 (22.5)									
None	19 (76.0)	1 (1.0)	1 (7.1)	7 (0.7)									
Marital status					<.001	0.072	0.429	<.001*	0.076	<.001*	<.001*	<.001*	<.001*
Single	17 (60.7)	52 (46.4)	11 (78.6)	288 (25.8)									
Married/cohabiting	9 (32.1)	58 (51.8)	3 (21.4)	821 (73.5)									
Divorced/separated	2 (7.1)	2 (1.8)	3 (21.4)	8 (0.7)									

Abbreviations EPDS Edinburgh postnatal depression scale; MDQ Mood disorder questionnaire.

NOTE: Descriptive statistics presented as mean ± SD and n (column %).

* Significant after Bonferroni correction.

Table 2

Demographic measures by visit type.

Measure	Visit		p
	Home (N=93)	Declined (N=62)	
Age	26.8 ± 5.4	29.0 ± 5.9	0.016
Race			0.008
White	51 (53.7)	44 (46.3)	
Black	36 (78.3)	10 (21.7)	
Other	6 (42.9)	8 (57.1)	
Hispanic			1.000
Yes	4 (66.7)	2 (33.3)	
No	89 (59.7)	60 (40.3)	
Education (level)			0.100
<High school	12 (70.6)	5 (29.4)	
High school	24 (60.0)	16 (40.0)	
Some college	33 (66.0)	17 (34.0)	
College	16 (61.5)	10 (38.5)	
Graduate school	7 (33.3)	14 (66.7)	
Medical insurance			0.007
Private	31 (46.3)	36 (53.7)	
Public	52 (69.3)	23 (30.7)	
None	2 (100)	0 (0.0)	
Marital status			0.097
Single	54 (67.5)	26 (32.5)	
Married/cohabiting	36 (51.4)	34 (48.6)	
Divorced/separated	2 (50.0)	2 (50.0)	

Abbreviations EPDS Edinburgh postnatal depression scale; MDQ Mood disorder questionnaire.

NOTE: Descriptive statistics presented as mean ± SD and n (row%).

Table 3

Primary Diagnoses of Screen-Positive Women by Screen Category

Primary diagnoses	EPDS/MDQ									
	Pos/Pos (N=23)		Pos/Neg (N=63)		Neg/Pos (N=7)					
	N	%	N	%	N	%	N	%	N	Total
Bipolar disorders	14	61	17	27	3	43	3	43	3	34
Bipolar I (depressed)	2	14	4	24	0	0	0	0	0	
Bipolar I (mixed)	4	29	3	18	1	33	1	33	1	
NOS	4	29	5	29	0	0	0	0	0	
Bipolar II	3	21	5	29	2	67	2	67	2	
Schizoaffective	1	7	0	0						
Anxiety disorders	0	0	7	11	1	14	1	14	1	8
Generalized anxiety	0	0	4	57	1	100	1	100	1	
Panic (with agoraphobia)	0	0	1	14	0	0	0	0	0	
Panic (without agoraphobia)	0	0	1	14	0	0	0	0	0	
Post-traumatic stress	0	0	1	14	0	0	0	0	0	
Depressive disorders	6	26	34	4	2	29	2	29	2	42
NOS	0	0	4	12	1	50	1	50	1	
MDD (recurrent)	6	100	24	71	1	50	1	50	1	
MDD (single episode)	0	0	6	18	0	0	0	0	0	
Substance use disorders	3	13	0	0	0	0	0	0	0	3
Poly-substance dependence	1	33	0	0	0	0	0	0	0	
Substance-induced mood disorder	2	67	0	0	0	0	0	0	0	
Other diagnoses	0	0	0	0	0	0	0	0	0	0
No diagnoses	0	0	5	8	1	14	1	14	1	6

Table 4

Primary and secondary diagnoses for all women who completed a home visit.

Primary diagnoses	N	%	Secondary diagnoses*	N	%
Anxiety disorders	8	9	N comorbid	4	4
Generalized anxiety	5	63	Anxiety disorders	5	63
Panic (with agoraphobia)	1	12	NOS	1	20
Panic (without agoraphobia)	1	12	Generalized anxiety	1	20
Post-traumatic stress	1	12	Obsessive-compulsive	1	20
			Panic (without agoraphobia)	1	20
			Specific phobia	1	20
			Depressive disorders	3	38
			Adjustment disorder	1	33
			NOS	1	33
			MDD (recurrent)	1	33
Bipolar disorders	34	37	N comorbid	29	31
Bipolar I (depressed)	6	18	Anxiety disorders	65	92
Bipolar I (mixed)	8	24	NOS	5	8
NOS	9	26	Generalized anxiety	18	28
Bipolar II	10	29	Obsessive-compulsive	10	15
Schizoaffective	1	3	Panic (with agoraphobia)	8	12
			Panic (without agoraphobia)	2	3
			Post-traumatic stress	11	17
			Social phobia	8	12
			Specific phobia	3	5
			Depressive disorders	1	1
			Dysthymic	1	100
			Substance use	5	7
			Alcohol abuse/dependence	1	20
			Cannabis abuse/dependence	3	60

Primary diagnoses	N	%	Secondary diagnoses*	N	%
			Opioid abuse/dependence	1	20
Depressive disorders	42	45	N comorbid	30	32
NOS	5	12	Anxiety disorders	51	94
MDD (recurrent)	31	74	NOS	3	6
MDD (single episode)	6	14	Generalized anxiety	23	45
			Obsessive-compulsive	5	10
			Panic (with agoraphobia)	7	14
			Panic (without agoraphobia)	1	2
			Post-traumatic stress	5	10
			Social phobia	4	8
			Specific phobia	3	6
			Depressive disorders	3	6
			Dysthymic	3	100
Substance use disorders	3	3	N comorbid	2	2
Poly-substance dependence	1	33	Anxiety disorders	5	83
Substance-induced mood disorder	2	67	Generalized anxiety	1	20
			Obsessive-compulsive	1	20
			Panic (with agoraphobia)	1	20
			Post-traumatic stress	1	20
			Specific phobia	1	20
			Bipolar disorders	1	17
			Bipolar I (depressed)	1	100
Other diagnoses	0	0	Other comorbidities	0	0
No diagnoses	6	6	No comorbidities	28	30
Total	93	100	Total	93	100

* Women may have more than one secondary diagnosis.