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Depressive Symptom Profiles and Severity Patterns in Outpatients with Psychotic versus Nonpsychotic Major Depression

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Abstract

Background—Previous research suggests that patients with psychotic major depression (PMD) may differ from those with nonpsychotic major depression (NMD) not only in terms psychotic features, but also in their depressive symptom presentation. The present study contrasted the rates and severity of depressive symptoms in outpatients diagnosed with PMD versus NMD.

Method—The sample consisted of 1,112 patients diagnosed with major depression, of which 60 (5.3%) exhibited psychotic features. Depressive symptoms were assessed by trained diagnosticians at intake using the Structured Clinical Interview for DSM-IV and supplemented by severity items from the Schedule for Affective Disorders and Schizophrenia.

Results—PMD patients were more likely to endorse the presence of weight loss, insomnia, psychomotor agitation, indecisiveness, and suicidality compared to NMD patients. Furthermore, PMD patient showed higher levels of severity on several depressive symptoms, including depressed mood, appetite loss, insomnia, psychomotor disturbances (agitation and retardation), fatigue, worthlessness, guilt, cognitive disturbances (concentration and indecisiveness), hopelessness, and suicidal ideation. The presence of psychomotor disturbance, insomnia, indecisiveness, and suicidal ideation were predictive of diagnostic status even after controlling for the effects of demographic characteristics and other symptoms.

Conclusions—These findings are consistent with past research suggesting that PMD is characterized by a unique depressive symptom profile in addition to psychotic features and higher levels of overall depression severity. The identification of specific depressive symptoms in addition to delusions/hallucinations that can differentiate PMD versus NMD patients can aid in the early detection of the disorder. These investigations also provide insights into potential treatment targets for this high-risk population.

In the current nomenclature of psychiatric diagnosis, psychotic major depression (PMD) is conceptualized as a severe subtype of unipolar depression that is defined by the presence of

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psychotic features (delusions or hallucinations) occurring in the context of a severe depressive episode [1]. Studies have shown that PMD is often associated with greater illness severity [2], impairment [3], comorbidity [4], and mortality [5] compared to nonpsychotic major depression (NMD). Furthermore, PMD patients tend to have higher rates of illness chronicity [3], relapse [6], and psychiatric hospitalization [4], as well as a poorer response to standard treatments for depression [7,8]. These patients often require adjunctive treatment with antipsychotic medications or electroconvulsive therapy [9]. Given the problem of treatment resistance in PMD [10], improvements in the identification and treatment of these patients are of paramount importance.

Psychotic symptoms have been shown to be present in up to 19% of depressed individuals living in the community [11] and 25% of depressed patients in psychiatric hospitals [12]. Unfortunately, PMD can be difficult to identify because: a) psychotic features in mood disorders can be more subtle than those found in patients with primary psychotic disorders; b) patients often underreport psychotic symptoms due to embarrassment or paranoia; c) clinicians frequently fail to fully assess for the presence of psychotic symptoms in patients with mood disorders; and d) PMD patients tend to have high rates of psychiatric comorbidity that can make differential diagnosis based on unstructured or brief clinical interviews problematic [13–16]. Therefore, in addition to the presence of overt psychotic features, researchers have attempted to identify other clinical features that are associated with a PMD diagnosis.

PMD originally was associated with “endogenous” or “melancholic” types of depression; however, these classifications have been found to be only partially or inconsistently applicable to PMD patients (e.g., the absence of diurnal variation in PMD compared to melancholic depression) [16,17]. A number of studies have reported that certain individual symptoms in PMD patients tend to more prevalent or severe, including suicidality [18], psychomotor disturbance (agitation or retardation) [12,19], insomnia [20], guilt [17], and cognitive impairment [21]. PMD tends to be associated with greater overall depression severity compared to NMD; however, some studies have shown that differences between PMD and NMD patients exist in many cases even after controlling for the influence of other symptoms [13,17]. For example, Parker et al. [17] showed that PMD patients could be differentiated from NMD patients based on the absence of diurnal variation and the presence of severe psychomotor disturbance, constipation, and sustained and unvarying depressive thinking content after taking into account the influence of other symptoms. Nevertheless, differences observed between PMD and NMD patients tend to vary considerably based on sample characteristics and study methodologies [22].

Most of the literature on the symptoms that differentiate PMD versus NMD has been conducted exclusively in inpatient samples [e.g., 2, 12], or in samples composed of both inpatients and outpatients taken from specialty clinics [e.g., 17, 18]. However, PMD patients presenting for treatment in general outpatient psychiatry settings may differ in terms of their clinical characteristics or as a function of the treatment setting itself. Unfortunately, relatively little is known about the clinical presentation of PMD patients being treated in the community specifically. Moreover, previous research has often failed to systematically investigate the severity of depression symptoms in PMD patients in addition to their presence/absence.

In the current study, we compared the rates and severity of current depressive symptoms in PMD and NMD patients by examining a sample of treatment-seeking psychiatric outpatients. These data were collected as part of the Methods to Improve Diagnostic Assessment and Services (MIDAS) project (n = 2,500), which represents an integration of research methods into a community-based outpatient practice affiliated with an academic university [23]. Patients completed a comprehensive assessment battery during clinic intake that included a structured clinical interview administered by trained diagnosticians. The aim of the current study was to

identify specific symptoms that can help clinicians identify PMD in depressed outpatients other than the nonspecific clinical markers of greater illness severity or the presence of overt psychotic symptoms. PMD and NMD patients were compared on their rates of DSM-IV-TR [1] symptoms for a current major depressive episode, as well as the severity of these and related psychiatric symptoms. Furthermore, we attempted to identify the depressive symptoms that best differentiated the diagnostic groups after controlling for demographic characteristics and other symptoms present. Based on previous research, we hypothesized that PMD outpatients would be differentiated from those with NMD by symptoms including suicidality, psychomotor disturbance, insomnia, guilt, and cognitive impairment.

METHOD

Sample

Participants included 2,500 psychiatric patients presenting for treatment at the outpatient practice of the Rhode Island Hospital Department of Psychiatry. One of the goals of the MIDAS project is to study the reliability and validity of self-administered questionnaires; thus, patients with significant cognitive limitations were excluded from participation (although other comorbid medical illnesses were permitted). The sample consisted of 1,514 females (60.6%) and 986 (39.4%) males, ranging in age from 18 to 85 (M = 38.3, SD = 12.8). The majority of the sample was Caucasian (n = 2,189; 87.6%), followed by African American (n = 112; 4.5%), Portuguese (n = 80; 3.2%), Hispanic (n = 65; 2.6%), other or mixed ethnicities (n = 35; 1.4%), and Asian (n = 19; 0.8%). Many participants were married (n = 1040; 41.6%), followed by never married (n = 774; 31.0%), divorced (n = 371; 14.8%), separated (n = 141; 5.6%), living as if married (n = 128; 5.1%), and widowed (n = 46; 1.8%). Over half of the sample (n = 1,573; 62.9%) had a high school degree or equivalency, whereas 355 (14.2%) received a 4-year college degree, 328 (13.1%) had a graduate degree/some graduate education, and 244 (10%) did not graduate from high school. The most frequent, current Axis I DSM-IV diagnoses were nonpsychotic major depression (n = 1054; 42.2%), social phobia (n = 690; 27.6%), generalized anxiety disorder (n = 428; 17.5%), panic disorder with agoraphobia (n = 339; 13.6%), posttraumatic stress disorder (n = 315; 12.6%), specific phobia (n = 258; 10.3%), alcohol abuse (n = 202; 8.1%), dysthymic disorder (n = 189; 7.6%), and obsessive-compulsive disorder (n = 179; 7.2%).

Please refer to a previously published report from this sample for a detailed description of differences in demographics, psychiatric comorbidity, and other clinical features between the PMD and NMD groups [24]. These findings are briefly summarized below. A total of 42.1% (n = 1052) [1] were diagnosed with NMD and 2.4% (n = 60) with PMD. Thus, 5.3% of patients diagnosed with major depression had psychotic features. For PMD patients, 80% reported a history of hallucinations, 32% reported delusions, and 17% reported both delusions and hallucinations in the context of a depressive episode. Auditory hallucinations (65%) and persecutory delusions (25%) were the most frequently reported types of psychotic features. See Table 1 for a summary of sample demographics. Results from a previous report [24] demonstrated that PMD patients were more likely to be non-Caucasian (35% vs. 14%) and to not have attained a college degree (13% vs. 34%) compared to NMD patients. No significant differences were found for age (M = 37 vs. 40 years; Range = 18–79), gender (female = 73% vs. 66%), or marital status (married = 43% vs. 48%) among PMD and NMD patients, respectively. In terms of history of illness, PMD patients had a significantly earlier age of onset (Ms = 21 vs. 26 years), greater frequency of previous suicide attempts (OR = 4.3) and psychiatric hospitalizations (OR = 2.5), as well as a higher prevalence of chronic depression

[1]Two patients with NMD diagnoses were excluded from the present analyses because they had a past history of psychotic symptoms that occurred outside the context of a depressive episode.

(OR = 3.7). PMD patients also had significantly higher levels of current global depression severity and functional impairment, and greater psychiatric comorbidity in terms of anxiety, somatic, and paranoid personality disorders. The present study was limited to comparisons of PMD and NMD patients on the prevalence and severity of current depressive symptoms at the time of the outpatient intake interview.

Measures

The *Structured Clinical Interview for DSM-IV Axis I Disorders* [SCID, 25] was used for psychiatric diagnosis. The SCID has been shown to have generally high reliability for the major disorders in a variety of samples and experimental designs [26]. Symptom ratings from the Current Major Depressive Episode of the Mood Module were examined in the study. SCID items are rated as follows: 1 = none, 2 = subthreshold, or 3 = threshold. Only items rated as 3 were counted as positive for the corresponding depressive symptom. In the current study, some depressive symptoms were rated using multiple items to provide a more detailed assessment of the construct. For example, separate ratings were made for suicidal ideation, including thoughts about death, thoughts of suicide, suicide plan, and suicide attempt.

Selected items from the *Schedule for Affective Disorders and Schizophrenia* [SADS, 27] were also administered to provide ratings of the severity of symptoms. The SADS is a semi-structured clinical interview based on the Research Diagnostic Criteria [28]. The instrument has been found to have good inter-rater reliability, internal consistency, and test-retest reliability [29]. SADS items examined in the current study were rated on a 6- or 7-point Likert scale and were operationally defined. For example, the depressed mood item ranged from 0 = “Not at all” to 6 = “Very extreme (constant unrelieved, extremely painful feelings of depression).”

Procedure

Individuals presenting for an intake appointment were asked to participate in a diagnostic evaluation prior to meeting with their treating clinician. Most patients were already being prescribed psychiatric medications at the time of the assessment, but detailed information on this topic is not available. As reported previously, patients who chose not to participate in the study were similar in terms of demographic characteristics and psychiatric symptoms [30]. Institutional Review Board-approved informed consent was obtained prior to conducting the assessments. All patients in the current sample were evaluated with the SCID. Diagnosticians were doctoral-level clinical psychologists or had bachelor’s degrees in the social or biological sciences. Diagnosticians were trained for a period of 3 months, which included reviewing written cases, discussing item-by-item administration with the principal investigator (M. Z.), observing at least 5 interviews, and administering 15 to 20 interviews while being observed and supervised. Diagnosticians were then required to demonstrate exact or near-exact inter-rater reliability with a senior diagnostician for 5 consecutive interviews. Diagnosticians received ongoing supervision of interviews via a weekly case conference. PMD was diagnosed according to DSM-IV criteria, which were assessed based on the Mood and Psychotic Modules of the SCID. Furthermore, diagnosticians carefully considered the differential diagnosis of PMD versus co-occurring conditions that can be confused with the disorder. Patients with bipolar disorder, schizoaffective disorder, or substance-induced mood disorder were excluded from the current sample, but those with comorbid obsessive-compulsive disorder (OCD) or posttraumatic stress disorder (PTSD) were included if they also met criteria for PMD and their psychotic features could not be accounted for by OCD or PTSD. Diagnosticians were trained to carefully distinguish between psychotic symptoms and the flashbacks and dissociative experiences often associated with PTSD. PMD was diagnosed only when the perceptual disturbances were outside the realm of any trauma-related material.

Inter-rater reliability information was collected over the course of the entire project. From 47 joint-interview reliability evaluations of the SCID, the reliability coefficients of the major Axis I disorders were: major depression κ= 0.91; panic disorder κ= 1.0; social phobia κ= 0.84; obsessive-compulsive disorder κ= 1.0; specific phobia κ= 0.93; generalized anxiety disorder κ= 0.93; posttraumatic stress disorder κ= 0.91; alcohol abuse/dependence κ= 0.64; drug abuse/dependence κ= 0.73; impulse control disorders κ= 1.0; and somatoform disorder κ= 1.0. The reliability coefficients of the symptoms of depression ranged from .54 to .94 (mean k=.80). For specific symptoms, Kappa coefficients were: depressed mood (k=.92), loss of interest or pleasure (k=.90), decreased appetite (k=.89), increased appetite (k=.63), decreased weight (k=.69), increased weight (k=.79), insomnia (k=.91), hypersomnia (k=.54), psychomotor agitation (k=.83), psychomotor retardation (k=.63), loss of energy (k=.88), feelings of worthlessness (k=.80), excessive guilt (k=.76), decreased concentration (k=.78), indecisiveness (k=.88), thoughts of death (k=.86), and suicidal ideas/plan/attempt (k=.94).

Statistical Analyses

The two patient groups (PMD vs. NMD) were compared on rates of DSM-IV symptom criteria for a major depressive episode using chi square tests. In addition, independent-samples t-tests were conducted between the groups on SADS symptom severity items. All tests were two-tailed, and alpha was set at .05. Bonferroni corrections are known to be overly conservative and increase the risk of committing a Type II error [31]; however, corrected alpha levels were also reported for comparison purposes. Cohen's [32] d statistic (0.2 = small, 0.5 = medium, and 0.8 = large) or odds ratios [33] and their 95% confidence intervals were computed as appropriate for group differences to describe the magnitude of effects. Logistic regression analyses based on a forward entry method (likelihood ratio) were used to identify the variables that differentiated the diagnostic groups, after controlling for the effects of other variables in the model.

RESULTS

DSM-IV Symptom Criteria for a Major Depressive Episode

Table 2 shows group comparisons for the rates of depressive symptoms during the current episode (based on the past two weeks). Based on the SCID, results indicated that PMD patients were more likely than NMD patients to report weight loss (OR = 2.1), psychomotor agitation (OR = 2.6), and indecisiveness (OR = 2.8) (ps < .05). In addition, PMD patients had higher rates of initial (OR = 3.0), middle (OR = 2.1), and terminal insomnia (OR = 2.0) (ps < .05). PMD patients also were more likely to report current suicidality, including thoughts of death (OR = 3.7), thoughts of suicide (OR = 2.8), a suicide plan (OR = 2.4), and a recent suicide attempt (OR = 5.5) (ps < .05). Furthermore, PMD patients had a higher total number of DSM-IV depressive symptom criteria met (d = .64; p < .05). No differences were found on the following variables: depressed mood, diurnal variation, diminished interest/pleasure, appetite disturbance, weight gain, hypersomnia, fatigue/loss of energy, worthlessness, guilt, or concentration (ps = n.s.).

A logistic regression analysis was conducted based on the likelihood ratio entry method using demographic variables (age, gender, race/ethnicity, education, marital status), presence of a comorbid anxiety disorder, and the SCID-rated depressive symptoms identified in previous analyses as significantly different between groups, including the total number of symptoms (see Table 3). The final model explained 21.3% (Nagelkerke R^2) of the variability between the diagnostic groups. Results showed that the following variables differentiated PMD versus NMD patients after controlling for the other variables in the model: education, race/ethnicity, initial insomnia, psychomotor agitation, indecisiveness, thoughts about death, and a recent suicide attempt. After controlling for demographic characteristics and other symptoms, PMD

patients remained significantly more likely to exhibit insomnia, psychomotor agitation, indecisiveness, thoughts about death, and a recent suicide attempt (ps < .05).

Severity of Current Depressive and Related Psychiatric Symptoms

Additional analyses were conducted between the diagnostic groups using t-tests on the severity of depressive and related psychiatric symptoms based on the SADS items (see Table 4). Results demonstrated that PMD patients had significantly higher severity ratings compared with NMD patients on the following depressive symptoms: depressed mood (d = .61), decreased appetite (d = .27), insomnia (d = .61), psychomotor agitation (d = .50) and retardation (d = .34), fatigue/loss of energy (d = .36), worthlessness (d = .46), guilt (d = .30), concentration (d = .41), indecisiveness (d = .61), hopelessness (d = .64), suicidal ideation (d = .67), and depressed appearance (d = .36) (ps < .05). In addition, PMD patients had significantly higher levels of subjective anger/irritability (d = .35), somatic complaints (d = .30), paranoid delusions (d = .70), and lack of insight into illness (d = .48) (ps < .05). No significant group differences were found on the following variables: diminished interest/pleasure, increased appetite, weight change, hypersomnia, expressed anger/irritability, or subjective/somatic anxiety (ps = n.s.).

A similar logistic regression analysis also was conducted entering the demographic variables, presence of a comorbid anxiety disorder, and the SADS severity items found to be significantly different between the groups (see Table 5). The final model explained 24.1% (Nagelkerke R^2) of the variability between the diagnostic groups. Results demonstrated that the following variables differentiated PMD versus NMD patients after controlling for the other variables in the model: race/ethnicity, depressed mood, insomnia, indecisiveness, suicidal ideation, paranoid ideation, and insight into illness. After controlling for demographics and other symptoms, PMD patients remained significantly more likely to exhibit more severe depressed mood, insomnia, indecisiveness, and suicidal ideation (ps < .05).

DISCUSSION

The symptom profiles and severity patterns of PMD patients in the current outpatient sample were largely consistent with those reported in past research using more acutely ill hospitalized samples. PMD patients were more likely to endorse symptoms such as weight loss, insomnia, psychomotor agitation, indecisiveness, and suicidality compared to NMD patients. Furthermore, the severity of a number of depressive symptoms was greater in PMD patients, including depressed mood, appetite loss, insomnia, psychomotor disturbances (agitation and retardation), fatigue, worthlessness, guilt, cognitive disturbances (concentration and indecisiveness), hopelessness, and suicidal ideation. Many previous studies in this area failed to adequately account for other symptoms present when reporting differences among PMD and NMD patients, or to include a comprehensive analysis of the presence *and* severity of the full range of DSM-IV-TR symptoms of major depression. Results reflecting the greater frequency and severity of certain depressive symptoms in PMD patients were not completely surprising as the disorder is defined in part by its higher severity. However, several of the differences found among PMD and NMD patients remained significant even after controlling for demographic characteristics, symptom severity, and other non-depressive symptoms present. For example, PMD remained significantly associated with higher rates of insomnia, psychomotor agitation, indecisiveness, and suicidality even after controlling for other potentially confounding variables. In addition, PMD patients continued to show more severe levels of depressed mood, insomnia, indecisiveness, and suicidal ideation.

The current study provides useful information that could help to improve the identification and treatment of PMD patients in community treatment settings. Our findings were consistent with those of past studies suggesting that psychotic features may be sufficient but not necessary for identifying PMD. In a series of studies, Parker and colleagues also found that certain depressive

symptoms, in addition to psychotic features, could be useful for discriminating among NMD and PMD patients. In one such study, PMD patients were more likely than NMD patients to evidence psychomotor disturbance, certain negative cognitions, the absence of diurnal variation, and constipation [17]. A follow-up study found a similar pattern in PMD patients, including psychomotor disturbance, "morbid" cognitions (e.g., guilt and sinfulness), constipation, terminal insomnia, and appetite/weight loss [34]. Furthermore, this general profile was confirmed in a PMD geriatric sample [35]. Based on this work, Parker [36] proposed a hierarchical classification system that views PMD as a modified form of melancholic depression typified by both delusions/hallucinations and severe psychomotor disturbance. The current study added to this previous work by addressing the severity of depressive symptoms in addition to their presence or absence alone, and showed that PMD is associated with more severe depressed mood, insomnia, indecisiveness, and suicidal ideation even after controlling for other symptoms. Given the frequent difficulty clinicians have diagnosing PMD due to patient underreporting or the presence of subtle psychotic symptoms, results from the current study and previous research suggest that symptoms such as psychomotor disturbance, insomnia, appetite/weight loss, cognitive disturbances, suicidality, and depressively distorted cognitions focusing on guilt or morbid themes should raise suspicion about the possible presence of PMD. In such cases, a more comprehensive assessment of psychotic features would be warranted.

Furthermore, understanding the frequency and severity of non-psychotic depressive symptoms in PMD patients could also prove useful in its treatment. PMD is often associated with treatment-resistance [10], and tends to respond poorly to conventional treatment with antidepressant medications [9]. Although the combination of selective serotonin reuptake inhibitors and atypical antipsychotic medications is increasingly seen as the frontline treatment for PMD, the superiority of this combined strategy over monotherapy with antidepressants has been questioned recently [37], and more research in this area is needed. In light of the current findings, the treatment of PMD may be able to be improved by the use of medications that target specific aspects of the illness in addition to the psychotic features themselves, including psychomotor disturbance, appetite, and cognitive impairment. For more severe forms of nonpsychotic depression, combined treatment with medications and a psychosocial intervention has been shown to produce a modest improvement in outcomes over either treatment alone [38,39]. Although psychosocial treatment development for PMD is still in its infancy [40], it is possible that targeted psychotherapies that focus on improving treatment adherence and engagement (a frequent problem in this population), and decreasing suicidality, distorted thinking patterns, and functional impairment may be useful when used as an adjunct to medications [41]. Tailoring treatment strategies (both pharmacological and psychosocial) to the specific symptoms of PMD patients may ultimately be needed to produce the most effective, feasible, and acceptable treatments for this population.

As discussed, the current study had several strengths, including the use of a large community outpatient sample, valid and reliable diagnostic assessments administered by trained interviewers, and comprehensive measures of DSM-IV-TR symptom criteria for major depression. However, limitations should also be considered. First, the number of PMD patients was relatively small, and our sample was low in ethnic/racial minority representation. Future attempts should be made to investigate symptom profiles in non-White patients due to potential differences in their clinical presentation of PMD. Given the broader literature showing racial/ethnic differences in primary psychotic disorders, the potential role of culture in the presentation and interpretation of PMD symptoms requires further investigation [42]. Second, assessments were based mainly on patient self-report, and it would be useful to corroborate symptom reporting using observational measures or collateral interviews from family members or significant others. Third, the current results may not hold true for all patients experiencing PMD given our use of a treatment-seeking sample. Fourth, more acutely ill patients may not

have been willing or able to participate in the comprehensive assessment. Finally, it is important to note that we did not assess all DSM-IV-TR symptom criteria for melancholic depression (e.g., distinct quality of depressed mood, lack of reactivity to usually pleasurable stimuli) because this section of the SCID was not administered. Future studies should more fully assess the relationship between this depression subtype and PMD.

Furthermore, certain characteristics of our sample may be important in the interpretation of results. The presence of hallucinations was more frequently endorsed in our sample than delusions. Past research, particularly on inpatients, has been conducted on PMD patients exhibiting delusions more frequently. Further research is needed to clarify whether there are clinical differences among PMD patients exhibiting different types of psychotic features. Additionally, the prevalence rates of PMD overall in the current sample is somewhat lower than those reported in the extant literature [11,12]. Several factors may account for this: 1) the highest rates of PMD typically have been reported in inpatient or elderly samples; 2) patients with PMD may be less likely to seek treatment in outpatient settings; 3) our use of comprehensive diagnostic assessments may have improved differential diagnosis of PMD versus other disorders; and 4) the lower prevalence rate may be related to the particular characteristics of the clinic, which predominantly treats those with medical insurance (including Medicare). Finally, it is important to note that currently PMD is considered a subtype of major depression in the DSM, and it is unclear whether these patients represent a true nosologically distinct group, as some have argued [43].

In conclusion, patients with PMD could be differentiated from those with NMD based the presence and severity of several depressive symptoms in addition to psychotic features. Symptoms including psychomotor disturbance, insomnia, indecisiveness, and suicidal ideation remained predictive even after controlling for the effects of illness severity and other factors. These findings are consistent with past research suggesting that PMD is characterized by a unique symptom profile, psychotic features, and higher levels of overall depression severity. The identification of specific depressive symptoms in addition to delusions/hallucinations that can differentiate PMD versus NMD can aid in the early detection of the illness, and also provide insights into potentially fruitful targets of treatment for this high-risk population.

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Table 1

Sample Demographics

	PMD (*n* = 60)		NMD (*n* = 1,052)	
Demographics	**M**	**SD**	**M**	**SD**
Age	37.0	11.7	39.5	12.2
	%	*n*	%	*n*
Gender (%)				
Male	26.7	16	34.5	364
Female	73.3	44	65.5	690
Race/Ethnicity (%)				
Caucasian	65.0	39	86.1	907
African-American	13.3	8	5.0	53
Hispanic	18.3	11	3.0	32
Portuguese	0	0	0.6	6
Asian	1.7	1	3.4	37
Other	1.7	1	1.8	19
Education (%)				
Did Not Complete High School	15.0	9	11.1	117
High School Graduate	40.0	24	24.6	259
Some College	31.7	19	30.6	322
College Graduate	10.0	6	26.3	277
Graduate Degree	3.3	2	7.5	79
Marital Status (%)				
Single	21.7	13	26.9	284
Married/Living	43.3	26	47.8	504
Divorced/Separated	30.0	18	23.1	243
Widowed	5.0	3	2.2	23

Note. PMD = Psychotic Major Depression; NMD = Nonpsychotic Major Depression.

Table 2

DSM-IV Major Depressive Episode Symptoms in Patients with Psychotic versus Nonpsychotic Major Depression

	PMD (n = 60)		NMD (n = 1,052)		Analysis[b]			Effect	
Symptoms	**%**	***n***	**%**	***n***	χ^2	***df***	***p***	***OR***	**95% *CI***
1. Depressed mood	95.0	57	92.5	973	0.52	1	.616	1.54	0.47–5.04
Morning Worsening	13.3	8	20.2	213	1.70	1	.192	1.65	0.77–3.53
Evening Worsening	16.7	10	23.8	250	1.60	1	.206	1.56	0.78–3.12
2. Diminished interest/pleasure	86.7	52	81.6	858	0.10	1	.318	1.47	0.69–3.14
3. Appetite									
Decreased	53.3	32	43.4	457	2.26	1	.133	1.49	0.88–2.51
Increased	16.7	10	20.1	211	0.41	1	.522	1.25	0.63–2.52
Weight									
Loss	38.3	23	22.5	237	7.92	1	.005*	2.14	1.25–3.67
Gain	13.3	8	17.2	181	0.63	1	.437	1.35	0.63–2.89
4. Insomnia									
Initial	71.7	43	44.9	472	16.40	1	.000*,a	3.04	1.71–5.40
Middle	71.7	43	54.4	572	6.87	1	.009*	2.12	1.20–3.77
Terminal	48.3	29	31.7	334	7.10	1	.008*	2.01	1.19–3.39
Hypersomnia	13.3	8	19.8	208	1.50	1	.220	1.60	0.75–3.42
5. Psychomotor disturbance									
Agitation	53.3	32	30.2	318	14.05	1	.000*,a	2.64	1.56–4.45
Retardation	33.3	20	24.9	262	2.13	1	.144	1.51	0.87–2.63
6. Fatigue/loss of energy	88.3	53	87.0	915	0.09	1	.761	1.13	0.51–2.54
7. Worthlessness	70.0	42	59.1	622	2.79	1	.095	1.61	0.92–2.84
Guilt	63.3	38	51.0	536	3.49	1	.062	1.66	0.97–2.85
8. Concentration	88.3	53	80.7	849	2.16	1	.142	1.81	0.81–4.04
Indecisiveness	71.7	43	47.6	501	13.13	1	.000*,a	2.78	1.57–4.94
9. Suicidality									
Thoughts of death	78.3	47	49.4	520	18.98	1	.000*,a	3.70	1.98–6.92
Thoughts of suicide	48.3	29	25.2	265	15.63	1	.000*,a	2.78	1.64–4.70
Suicide plan	23.3	14	12.0	126	6.65	1	.010*	2.24	1.20–4.19
Suicide attempt	10.0	6	2.0	21	15.35	1	.002*,a	5.46	2.11–14.07
	M	***SD***	***M***	***SD***	***t***	***df***	***p***	***d***	95% *CI*
Total DSM-IV criteria (1–9)	7.55	1.24	6.71	1.37	4.66	1110	.000*,a	0.64	0.38–0.90

*Note. $p < .05$;

[a] also significant at Bonferroni-corrected α/25; PMD = Psychotic Major Depression; NMD = Nonpsychotic Major Depression;

[b] Fisher's exact test used if expected values were less than 5.

Table 3

Logistic Regression Analysis of DSM-IV Major Depressive Episode Symptoms and Depression Subtype (Psychotic vs. Nonpsychotic)

Variables	*β*	*SE*	Wald χ^2 (*df* = 1)	*p*	Hazard Ratio	95% CI
In the Final Model						
Education (College degree vs. Not)	0.91	.40	5.32	.021	2.49	1.15–5.41
Race/Ethnicity (Caucasian vs. Other)	−1.00	.30	10.89	.001	0.37	0.20–0.67
Initial Insomnia	−0.90	.31	8.72	.003	0.41	0.22–0.74
Psychomotor Agitation	−0.73	.28	6.67	.010	0.48	0.28–0.84
Indecisiveness	−0.74	.31	5.79	.016	0.48	0.26–0.87
Thoughts about Death	−1.07	.33	10.28	.001	0.34	0.18–0.66
Suicide Attempt	−1.19	.53	5.04	.025	0.30	0.11–0.86
Not in the Final Model						
Age			0.00	.955		
Sex			0.76	.382		
Marital Status (Married vs. Not)			0.10	.755		
Comorbid Anxiety Disorder (Yes vs. No)			1.91	.167		
Middle Insomnia			2.52	.112		
Terminal Insomnia			2.55	.110		
Weight Loss			1.60	.206		
Thoughts of Suicide			0.34	.559		
Suicide Plan			0.05	.831		
Number of Depressive Symptoms			0.00	.989		
Constant	−0.20	.70	0.08	.779	0.82	

Note. n = 1,110.

Table 4

SADS Severity Ratings in Patients with Psychotic versus Nonpsychotic Major Depression

	PMD (*n* = 60)		NMD (*n* = 1,052)		Analysis			Effect	
Depression Symptoms	**M**	**SD**	**M**	**SD**	**t**	**df**	**p**	**d**	**95% CI**
Depressed mood	4.17	1.08	3.55	0.94	4.92	1110	.000*,a	0.61	0.35–0.87
Diminished interest/pleasure	4.15	1.25	3.91	1.28	1.44	1110	.150	0.19	−0.07–0.45
Appetite									
Decreased	2.08	1.79	1.62	1.65	2.12	1110	.034*	0.27	0.01–0.53
Increased	0.73	1.53	0.79	1.43	0.32	1110	.747	−0.04	−0.30–0.22
Weight									
Loss	1.37	1.69	1.00	1.47	1.87	1110	.062	0.23	−0.03–0.49
Gain	0.77	1.56	0.82	1.50	0.25	1110	.803	−0.03	−0.29–0.23
Sleep disturbance									
Insomnia	3.42	1.18	2.61	1.45	4.23	1110	.000*,a	0.61	0.35–0.87
Hypersomnia	0.55	1.32	0.94	1.61	1.86	1110	.064	−0.26	−0.53–0.00
Psychomotor disturbance									
Agitation	1.95	1.44	1.26	1.32	3.90	1110	.000*,a	0.50	0.24–0.76
Retardation	1.52	1.58	1.03	1.28	2.83	1110	.005*	0.34	0.08–0.60
Fatigue/loss of energy	3.70	0.79	3.35	1.09	2.48	1110	.013*	0.36	0.11–0.63
Worthlessness	3.20	1.41	2.54	1.43	3.50	1110	.000*,a	0.46	0.20–0.73
Guilt	2.45	1.36	2.05	1.34	2.25	1110	.024*	0.30	0.04–0.56
Concentration	3.60	1.00	3.15	1.17	2.93	1110	.003*	0.41	0.15–0.67
Indecisiveness	2.77	1.42	1.86	1.56	4.39	1110	.000*,a	0.61	0.35–0.87
Hopelessness	3.02	1.10	2.27	1.25	4.51	1110	.000*,a	0.64	0.38–0.90
Suicidal ideation	2.18	1.66	1.31	1.32	4.94	1110	.000*,a	0.67	0.41–0.93
Depressed appearance	2.62	1.29	2.18	1.16	2.82	1109	.005*	0.36	0.10–0.62
Related Symptoms									
Anger/irritability									
Subjective	3.12	1.56	2.60	1.44	2.70	1110	.007*	0.35	0.09–0.61
Expressed	1.55	1.47	1.49	1.34	0.36	1110	.723	0.04	−0.22–0.30
Anxiety									
Psychic	2.85	1.60	2.50	1.47	1.80	1110	.072	0.23	−0.03–0.49
Somatic	2.45	1.53	2.11	1.46	1.74	1110	.081	0.23	−0.03–0.49
Somatic complaints	0.92	1.27	0.56	1.09	2.41	1110	.016*	0.30	0.04–0.56
Paranoid delusions	2.12	1.91	1.01	1.16	6.88	1110	.000*,a	0.70	0.44–0.96
Lack of insight	0.57	0.70	0.27	0.55	4.01	1110	.000*,a	0.48	0.22–0.74

*Note. $p < .05$;

[a]also significant at Bonferroni-corrected $\alpha/25$; PMD = Psychotic Major Depression; NMD = Nonpsychotic Major Depression; SADS = Schedule for Affective Disorders and Schizophrenia.

Table 5

Logistic Regression Analysis of Depressive Symptom Severity and Depression Subtype (Psychotic vs. Nonpsychotic)

Variables	*β*	*SE*	Wald χ^2 (*df* = 1)	*p*	Hazard Ratio	95% *CI*
In the Final Model						
emsp;Race/Ethnicity (Caucasian vs. Other)	−0.94	.31	9.12	.003	0.39	0.21–0.72
emsp;Depressed Mood	0.31	.15	4.06	.044	1.36	1.01–1.83
emsp;Insomnia	0.40	.13	9.81	.002	1.49	1.16–1.91
emsp;Indecisiveness	0.25	.10	5.91	.015	1.28	1.05–1.57
emsp;Suicidal Ideation	0.29	.10	8.34	.004	1.33	1.10–1.62
emsp;Paranoid Ideation	0.36	.10	11.95	.001	1.43	1.17–1.75
emsp;Insight into Illness	0.48	.20	5.60	.018	1.61	1.09–2.40
Not in the Final Model						
emsp;Sex			1.58	.208		
emsp;Age			0.27	.602		
emsp;Marital Status (Married vs. Not)			0.32	.572		
emsp;Education (College degree vs. Not)			3.72	.054		
emsp;Comorbid Anxiety Disorder (Yes vs. No)			0.99	.321		
emsp;Decreased Appetite			0.00	.948		
emsp;Psychomotor Agitation			0.94	.333		
emsp;Psychomotor Retardation			0.36	.546		
emsp;Fatigue			1.15	.283		
emsp;Worthlessness			0.06	.809		
emsp;Guilt			0.15	.701		
emsp;Concentration			0.34	.562		
emsp;Hopelessness			2.35	.126		
emsp;Depressed appearance			0.25	.619		
emsp;Subjective anger/irritability			0.01	.921		
emsp;Somatic Complaints			0.19	.662		
Constant	−6.33	.76	69.33	.000	0.002	

Note. n = 1,109.