# Psychotic Subtyping of Major Depressive Disorder and Posttraumatic Stress Disorder

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***Background:*** Many studies have established that a large percentage of patients with posttraumatic stress disorder (PTSD) have comorbid major depressive disorder. Other studies have found that patients with PTSD or a history of childhood trauma have an increased rate of psychotic symptoms. In the present report from the Rhode Island Methods to Improve Diagnosis and Services project, we examine whether an association exists between psychotic subtyping of major depressive disorder and PTSD.

***Method:*** Five hundred psychiatric outpatients were interviewed with the Structured Clinical Interview for DSM-IV.

***Results:*** Almost half of the 500 patients had nonbipolar major depressive disorder (N = 235, 47.0%), 45 (19.1%) of whom had PTSD. Nineteen patients had psychotic depression, 216 had nonpsychotic depression. Compared with patients with nonpsychotic depression, the patients with psychotic depression were nearly 4 times more likely to have PTSD (57.9% vs. 15.7%, Fisher exact test, p = .0001).

***Conclusion:*** The results of the present study suggest that the presence of psychosis in psychiatric outpatients with major depressive disorder is associated with concurrent PTSD. It is hypothesized that the poorer longitudinal course of psychotic versus nonpsychotic depression may be due to the underrecognition of PTSD in psychotically depressed patients.

*(J Clin Psychiatry 1999;60:311–314)*

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Studies of diagnostic comorbidity in patients with posttraumatic stress disorder (PTSD) have found that the disorder rarely occurs alone.[1–3] Deering and colleagues[4] reviewed the comorbidity literature and found that PTSD most often co-occurs with substance abuse and major depressive disorder. Although there are many studies of the prevalence of depression in patients with PTSD, no studies have examined the association between depressive subtypes and PTSD.

Of the different methods to subtype major depressive disorder, it would be particularly important to examine the association between PTSD and psychotic subtyping, because the presence of psychotic symptoms in depressed patients has treatment implications[5–7] (i.e., antidepressant monotherapy is not as effective as it is in nonpsychotic depression), and there is evidence that patients with PTSD are prone to have psychotic symptoms.[8–13] In the Cincinnati first-break psychosis study, patients with nonbipolar psychotic major depressive disorder were significantly more likely than patients with bipolar psychotic disorder or nonaffective psychosis to have a history of PTSD that predated the onset of the psychotic break.[8] This study lacked a nonpsychotic depression control group, so it could not be determined if PTSD increased patients' vulnerability to depression in general or to psychotic depression in particular. Other studies have found that patients with PTSD or a history of childhood abuse have an increased rate of psychotic symptoms[9–11] and elevated scores on self-report indices of psychosis and paranoia.[12,13] We are not aware of any studies of the prevalence of PTSD in depressed patients subtyped by the presence or absence of psychotic features.

In the present report from the Rhode Island Methods to Improve Diagnosis and Services (MIDAS) project, we examine the relationship between psychotic subtyping of major depressive disorder and the presence of PTSD. We predicted that the prevalence of PTSD would be higher in patients with psychotic than nonpsychotic depression. We also compared psychotic depressives with and without PTSD as to the type of psychotic symptoms that they experienced.

## METHOD

Five hundred patients were evaluated with semistructured diagnostic interviews in the Rhode Island Hospital Department of Psychiatry outpatient practice (Providence, R.I.). This private practice group predominantly treats individuals with medical insurance (including Medicare, but not Medicaid) on a fee-for-service basis, and it is distinct from the hospital's outpatient residency training clinic that predominantly serves lower income, uninsured, and medical assistance patients.

The patients were interviewed by a diagnostic rater who administered the Structured Clinical Interview for DSM-IV (SCID).[14] After the SCID, the rater presented the case to a psychiatrist who reviewed the findings of the evaluation with the patient. If the psychiatrist obtained additional information that would modify the diagnosis, it was discussed with the SCID rater. The Rhode Island Hospital institutional review committee approved the research protocol, and all patients provided informed, written consent.

Six diagnostic raters were used to administer the SCID. The raters included the authors of the article, each of whom has extensive experience administering research diagnostic interviews. The other 4 raters were research assistants with college degrees in the social or biological sciences; 1 had more than 6 years of experience in administering the SCID and had previously trained other research assistants in its use; the remaining 3 received 3 months of training during which they observed at least 20 interviews, and they were observed and supervised in their administration of more than 20 evaluations. At the end of the training period, these 3 raters were required to demonstrate exact, or near exact, agreement with a senior diagnostician on 5 consecutive evaluations. During the course of the study, joint-interview diagnostic reliability information was collected on 17 patients. Nine patients with major depressive disorder and 4 patients with PTSD were diagnosed with perfect reliability ($\kappa = 1.0$).

Throughout the MIDAS project, ongoing supervision of the raters included weekly diagnostic case conferences involving all members of the team. In addition, every case was presented to one of the authors on the day of the evaluation. Diagnostic uncertainties were usually clarified the same day and, if necessary, patients were telephoned to obtain additional information to render a definitive diagnosis.

We modified the psychosis section of the SCID by eliminating the SCID's psychosis screening questions and asking every patient about 13 different delusions (reference, persecution, grandiosity, somatic, religious, guilt, jealousy, erotomanic, control, thought insertion, thought withdrawal, thought broadcasting, and mind reading) and 5 types of hallucinations (auditory, visual, tactile, gustatory, and olfactory).

The PTSD section of the SCID begins with the question, "Sometimes things happen to people that are extremely upsetting or life-threatening—like a major disaster, very serious accident, combat, fire, being physically assaulted or raped, seeing another person killed or dead or badly hurt. Have any of these kinds of things happened to you?" Patients who reported more than one trauma were asked which trauma affected them the most, and the symptoms of PTSD were assessed for the event that was identified as most traumatic. The traumas were classified into 13 categories: serious accident, fire, or explosion; natural disaster; nonsexual assault by a family member or someone known; nonsexual assault by a stranger; sexual assault by a family member or someone known; sexual assault by a stranger; military combat in a war zone; sexual contact with someone who was 5 or more years older when the patient was younger than 18; imprisonment; torture; life-threatening illness; witnessed death or violent assault of another person; and other. Patients were not specifically asked about the presence or absence of each type of trauma; rather, they were asked the SCID's initial screening question, and the traumatic events that were reported were classified into the 13 categories.

**Table 1. Presence of Posttraumatic Stress Disorder (PTSD) in Depressed Patients With and Without Psychotic Symptoms[a]**

| Diagnosis | PTSD Absent | PTSD Present |
|---|---|---|
| Major depressive disorder without psychotic symptoms | 182 | 34 |
| Major depressive disorder with psychotic symptoms | 8 | 11 |

[a]The groups were significantly different by Fisher exact test, $p < .001$.

## RESULTS

Almost half of the 500 patients evaluated had nonbipolar major depressive disorder (N = 235, 47.0%). The majority of the depressed patients were female (64.7%), white (89.4%), and high school graduates (84.7%). Nearly half of the patients were married (47.2%); the remainder were single (23.4%), divorced (16.2%), separated (8.9%), widowed (2.6%), or living with someone as if in a marital relationship (1.7%). The mean ± SD age of the depressed patients was 39.8 ± 12.5 years.

Forty-five (19.1%) of the depressed patients had comorbid PTSD. The 3 most common traumatic events that caused the PTSD syndrome were sexual assault by a family member or someone known to the patient (42.2%), nonsexual assault by a family member or someone known to the patient (20.0%), and being in a serious accident (11.1%). The other traumatic events were witnessed death or violent assaults of another person (6.7%), life-threatening illness (4.4%), nonsexual assault by a stranger (4.4%), sexual contact with someone 5 or more years older when the patient was below age 18 (2.2%), and other (8.9%).

Nineteen patients (8.1%) with major depressive disorder had psychotic features, and 216 patients (91.9%) with major depressive disorder were without psychotic features. The data in Table 1 show that, compared with patients with nonpsychotic depression, patients with psychotic depression were nearly 4 times more likely to have PTSD (57.9% vs. 15.7%, Fisher exact test, $p = .0001$).

Although the sample size was small, we conducted an exploratory analysis of whether the types of psychotic

features differed in the 11 psychotic depressives with PTSD and the 8 psychotic depressives without PTSD. The psychotic depressives with PTSD were significantly more likely than the psychotic depressives without PTSD to have experienced auditory hallucinations (90.9% vs. 37.5%, Fisher exact test, $p = .04$). There were no differences between the psychotic depressives with and without PTSD with regard to other hallucinations or types of delusions.

## DISCUSSION

The results of the present study suggest that the presence of psychosis in psychiatric outpatients with major depressive disorder is associated with concurrent PTSD. This finding is consistent with other studies that have found an association between PTSD and psychotic symptoms.[8–13,15]

Caution should be taken against overdiagnosing psychosis in patients with trauma histories, because dissociative symptoms can be confused with psychotic symptoms. Indeed, in his writings about multiple personality disorder, Kluft[16] noted that many patients with multiple personality disorder describe Schneiderian first-rank symptoms and are misdiagnosed with psychotic disorders for many years before dissociative disorder is recognized. In the present study, we were careful to distinguish between non–trauma-related psychotic symptoms and flashbacks and the reliving phenomena associated with PTSD. We diagnosed psychotic depression only when the perceptual disturbances were outside the realm of the specific trauma material. Moreover, psychotic depression was diagnosed only if delusions or hallucinations were present; we did not broaden the definition of psychosis to include derealization or depersonalization.

Recent literature reviews of the significance of psychotic features in depressed patients have indicated that patients with psychotic versus nonpsychotic depression are distinguishable in terms of symptom severity, biological abnormalities, treatment response, and longitudinal course.[5,6] That is, compared with those with nonpsychotic depression, individuals with psychotic depression are more severely ill, are more likely to have abnormalities of their hypothalamic-pituitary-adrenal axis, are less likely to respond to antidepressant monotherapy, and have higher levels of symptoms and poorer psychosocial functioning during longitudinal follow-up. The recent finding that most patients with psychotic depression receive inadequate dosages of antipsychotic medication offered a possible explanation for the poorer longitudinal course of psychotic depressives in naturalistic follow-up studies.[17] The results of the present study offer another possible explanation because depressed patients with PTSD may have poorer outcomes than depressed patients without PTSD.

Four studies have found that a history of childhood abuse was associated with more chronic course in patients and community residents with depression. Brown and Moran[18] prospectively studied the course of depression in women living in the community who had a child under the age of 18 living at home. The likelihood of the depressive episode lasting more than a year was significantly higher in women who had been physically or sexually abused as children. In a separate study of depressed patients, Brown and colleagues[19] again found that childhood adversity was associated with greater chronicity of depression. Zlotnick and colleagues[20] interviewed 38 depressed female inpatients with the Hamilton Rating Scale for Depression on a monthly basis for 12 months after hospital discharge. Women with a history of childhood physical or sexual abuse were 3.7 times less likely to have recovered from their depression by 12 months. Finally, in a study of the chronicity of depression in patients with a principal diagnosis of an anxiety disorder, Zlotnick and colleagues[21] found that a history of trauma predicted a lower remission rate from depression. Thus, the available evidence suggests that a history of trauma is associated with greater chronicity of depression, although the question of the impact of PTSD on outcome has not been examined directly.

Because the diagnosis of psychotic depression suggests the presence of a severe disorder that requires pharmacotherapy, we would predict that psychiatrists generally do not hold a high index of suspicion for diagnosing PTSD in patients with psychotic depression. There is evidence that PTSD is often overlooked in routine clinical practice,[22–27] although no study has established if this is particularly true in patients with psychotic depression.

If PTSD is overlooked in patients with psychotic depression, then it is likely that psychotherapies that have been found to be effective in alleviating symptoms of PTSD (as well as comorbid depression)[28,29] will not be administered. Whether or not the outcome of patients who have psychotic depression with comorbid PTSD can be improved if cognitive-behavioral therapy is added to pharmacotherapy is an empirical question. Of note, Mueser and Butler[30] and Waldfogel and Mueser[31] described several patients with psychotic symptoms and PTSD who failed to respond to antipsychotic medications, but instead responded to imaginal exposure. To date, there are no comparative studies of the efficacy of medication and psychotherapy, alone or in combination, in the treatment of PTSD. If cognitive-behavioral therapy is superior to medication, or if the combination of both treatments produces the greatest improvement, then improved clinical detection of PTSD should improve outcome by virtue of more appropriate treatment planning. Because of the high prevalence of PTSD in psychotic depression and the relatively poorer outcome of psychotic depression compared with nonpsychotic depression, this area of treatment research may be worth pursuing.

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