PSYCHOTIC VERSUS NONPSYCHOTIC DEPRESSION IN HOSPITALIZED ADOLESCENTS

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One hundred fifty adolescent inpatients with major depression were systematically assessed for demographic and clinical differences between psychotic and nonpsychotic depression. Delusions and/or hallucinations were present in 10% of the subjects. The psychotic group had significantly more frequent and severe suicidal ideation. Posttraumatic stress disorder was also more frequent in the psychotic group. Depression and Anxiety 6:40–42, 1997. *© 1997 Wiley-Liss, Inc.*

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INTRODUCTION

The prevalence of psychotic symptoms in studies of adolescents with major depression has ranged from 18% in a predominately outpatient sample (Ryan et al., 1987) to 45% in a sample of hospitalized adolescents (Haley et al., 1988). Psychotic depression in clinical samples of adolescents has been associated with sexual abuse and alcohol/drug use (Ryan et al., 1987; Haley et al., 1988). In one study of homeless adolescents, psychotic symptoms were associated with depression severity, suicidal ideation, physical/sexual abuse, and drug use (Mundy et al., 1990). However, the previous studies described a minimal number of psychotically depressed adolescents, and none of them used a structured interview to assess comorbid conditions such as posttraumatic stress disorder (PTSD). Because of the limited information on psychotic mood disorders in youth, the present study systematically assessed 150 adolescent inpatients with major depression for demographic and clinical differences between psychotic and nonpsychotic depression. The present results provide evidence for increased rates of suicide and PTSD in psychotically depressed adolescents.

METHODS

The subjects were 150 adolescents with major depression from a total of 265 adolescents consecutively admitted to the adolescent psychiatry inpatient program of a university medical center during a 2-year period. Subjects were 12–18 years of age. Psychotic symptoms sufficient for a diagnosis of major depression with psychotic features were present in 15 (10%) of the subjects. Exclusion criteria were mental retardation, pervasive developmental disorder, organic mental disorder, bipolar disorder, schizophrenia, delusional disorder, and psychotic disorders not classified elsewhere. Informed consent to participate in research was obtained from each adolescent and parent or guardian.

The computerized version of the Diagnostic Interview Schedule for Children (C-DISC) was completed independently by the adolescent, parent/guardian, or both (Fisher et al., 1993). The C-DISC was supplemented with the PTSD section of the Diagnostic Interview for Children and Adolescents (Welner et al., 1987), clinical admission interviews, and behavioral observations. Consensus diagnoses were made using all sources of information according to DSM-III-R criteria (American Psychiatric Association, 1987). A demographic/medical history form was completed for each subject by the parent/guardian. In addition to a routine admission medical evaluation, all psychotic patients received the following studies to rule out medical illnesses associated with psychosis: antinuclear antibody, B_{12}, folate, ceruloplasmin, copper, lysosomal enzymes, serum lactate and pyruvate, urine amino acids, urine porphyrin screen, computed tomographic head scan with contrast, and sleep-deprived electroencephalogram. Depression severity was assessed with the Children's Depression Rating Scale-Revised (CDRS-R; Poznanski et al., 1984) and the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1987). Presence and severity of suicidal ideation were assessed with the Suicidal Ideation Questionnaire-JR (SIQ-JR; Reynolds, 1988).

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TABLE 1. Demographic characteristics of 150 adolescent inpatients with major depression with and without psychotic features

Item	Psychotic (n = 15)	Nonpsychotic (n = 135)	Total (n = 150)
Current age (years, mean ± S.D.)	15.2 ± 1.5	15.4 ± 1.5	15.4 ± 1.5
Gender			
Male (%)	6 (40)	55 (41)	61 (41)
Female (%)	9 (60)	80 (59)	89 (59)
Race			
European-American (%)	12 (80)	117 (87)	129 (86)
African-American (%)	1 (7)	15 (11)	16 (11)
Other (%)	2 (13)	3 (2)	5 (3)
Socioeconomic status (SES)[a]			
I (high) (%)	0 (0)	21 (18)	21 (16)
II (%)	2 (13)	17 (14)	19 (14)
III (%)	3 (20)	34 (29)	37 (28)
IV (%)	7 (47)	31 (26)	38 (28)
V (%)	3 (20)	15 (13)	18 (14)

[a]*SES data are missing for 17 subjects who were primarily in foster home settings.*

Unpaired t-tests were used to compare group means. A multivariate analysis of variance was used to examine differences between the two groups on the four CDRS-R subscales. Categorical data were analyzed with Fisher's exact tests. All probability values reported are two-tailed with significance stipulated as $P \leq 0.05$.

RESULTS AND DISCUSSION

The demographic and clinical characteristics of subjects are provided in Tables 1 and 2, respectively. There were no significant differences between psychotic and nonpsychotic groups in age, gender, race, socioeconomic status, age at first outpatient contact, or age at first hospitalization. There were also no differences between groups in RADS total score, CDRS-R total score, or CDRS-R subscale scores. However, the psychotic group had significantly higher SIQ-JR scores than did the nonpsychotic group (t = 2.42, df = 119, $P = 0.017$). PTSD was significantly more frequent in the psychotic group (33%) than in the nonpsychotic group (7%) (Fisher's exact test, $P = 0.008$). The majority of the patients with PTSD had a history of sexual abuse. There were no other differences between groups in associated current psychopathology.

Delusions were present in 93% of the psychotic patients. The remaining 7% had only hallucinations. Eighty percent of the patients with delusions also had hallucinations. Twenty percent of psychotic patients had only delusions. Delusions occurred in all psychotic patients, with thought disorder or other disturbances in psychomotor or verbal behavior. Table 3 lists the frequencies of the various psychotic symptoms.

Delusions and/or hallucinations supporting a DSM-III-R diagnosis of major depression with psychotic features were found in 10% of adolescent inpatients. This percentage is lower than the figure of 18% found in 92 adolescents who met research diagnostic criteria for major depressive disorder (Ryan et al., 1987). Higher rates of psychosis noted in smaller samples of depressed adolescents may have been the result of sampling error or distinct characteristics of study samples (Haley et al., 1988). Psychotic features have been found in a low percentage of adults with major depression in clinical and community samples (Klerman, 1988; Johnson et al., 1991).

Psychotically depressed adolescents expressed significantly more frequent and severe suicidal thoughts, even in this inpatient sample of acutely and severely disturbed adolescents, as measured with the SIQ-JR. This finding suggests that they may be at higher risk for suicide. Studies of adults with major depression have found higher rates of suicide attempts and completed suicide in those with psychotic features than in those without psychotic features (Johnson et al., 1991; Roose et al., 1983). Psychotic depression was associated with an increase in comorbid PTSD. This finding requires replication. It is consistent with studies describing a history of sexual or physical abuse in psychotically depressed adolescents (Haley et al., 1988; Mundy et al., 1990). The data suggest that traumatic events may result in perceptual distortions in de-

TABLE 2. Clinical characteristics of 150 adolescent inpatients with major depression with and without psychotic features

	Psychotic (n = 15)[a]		Nonpsychotic (n = 135)[b]		Total (n = 150)	
Item	Mean	S.D.	Mean	S.D.	Mean	S.D.
Age at first outpatient contact (years)	13.2	3.0	12.4	3.2	12.5	3.3
Age at first hospitalization (years)	13.9	2.6	14.6	1.9	14.5	2.0
Children's Depression Rating Scale—Revised	55.4	10.8	52.9	14.0	53.0	13.8
Reynold's Adolescent Depression Scale	78.7	16.1	74.4	18.1	74.7	18.0
Suicidal Ideation Questionnaire-JR	48.6	22.7	28.3	24.2	29.8	24.6[c]

[a]*Actual rating scale samples sizes for the psychotic group ranged from 7 (CDRS-R) to 9 (RADS and SIQ-JR).*
[b]*Actual rating scale sample sizes for the nonpsychotic group ranged from 104 (CDRS-R) to 112 (SIQ-JR).*
[c]*t = 2.24,* P = *0.017.*

TABLE 3. Psychotic symptoms in 15 adolescent inpatients with major depression

Type of psychotic symptom	n (%)[a]
Delusions	14 (93)
Paranoid	7 (47)
Ideas of reference	1 (7)
Guilt	6 (4)
Grandiose	4 (27)
Being controlled	2 (13)
Knows other's thoughts	3 (20)
Thought deletion	2 (13)
Thought insertion	1 (7)
Somatic	5 (33)
Hallucinations	12 (80)
Visual	7 (47)
Auditory	9 (60)
Olfactory	1 (7)
Somatic	3 (20)
Symptoms in thought content	7 (47)
Seemed all jumbled up	4 (27)
Wandered off the subject	4 (27)
Gave mixed-up answers to others' questions	5 (33)
Overinclusion	4 (27)
Thought blocking	5 (33)
Motor symptoms	4 (27)
Catatoniclike	4 (27)
Talked out loud to self	5 (33)

[a] *Total exceeds 15 subjects, or 100%, due to multiple symptoms being reported.*

pressed adolescents that may be expressed as PTSD, psychosis, or both conditions. However, a recent study has found that neither a history of sexual abuse nor a diagnosis of PTSD was associated with an increase in suicidal behavior in an inpatient sample of depressed adolescents (Brand et al., 1996).

In keeping with the present findings, studies comparing psychotic and nonpsychotic depression in adults have found no consistent demographic differences. In cross-sectional studies of adults, the most consistent clinical difference has been the higher frequency of psychomotor agitation–retardation in the psychotically depressed (Charney and Nelson, 1981; Frances et al., 1981). Furthermore, psychotic symptoms tend to recur across episodes (Charney and Nelson, 1981) and denote a lifetime illness of greater severity (Johnson et al., 1991).

Study limitations include the limited sample size and cross-sectional design; thus, the issue of bipolarity could not be addressed. Previous studies have shown that depressed adolescents with psychotic symptoms are more likely than those without such symptoms to develop bipolar disorder (Strober and Carlson, 1982; Akiskal et al., 1983). Additional longitudinal studies of depressed adolescents are needed to delineate the course and outcome of psychotic depression further. Furthermore, the psychotic group was too small to determine whether particular psychotic symptoms were associated with PTSD or with suicide. Future studies should determine whether the differences between groups with respect to suicide and PTSD are persistent and associated with increased morbidity and mortality.

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