

Clinical Characteristics of Depressive Symptoms in Children and Adolescents With Major Depressive Disorder

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Objective: Very few studies have compared the symptoms of major depressive disorder (MDD) and rates of comorbid psychiatric disorders between depressed children and adolescents. The aim of this study was to reproduce and extend these findings.

Method: The Kiddie Schedule for Affective Disorders and Schizophrenia, present version (KSADS-P) was administered to parents (about their children) and in face-to-face interviews with 916 subjects aged 5.6 to 17.9 years with MDD (DSM criteria) (715 adolescents and 201 children; 348 male and 568 female). The subjects were consecutive referrals to an outpatient mood and anxiety disorders clinic.

Results: Depressed adolescents had significantly more hopelessness/helplessness, lack of energy/tiredness, hypersomnia, weight loss, and suicidality compared with children (p values $\leq .001$). In comparison with children, adolescents had significantly more substance abuse and less comorbid separation anxiety disorder and attention-deficit/hyperactivity disorder (p values $\leq .001$). Depressed female adolescents had significantly more suicidality than depressed male adolescents ($p \leq .001$). There were no other sex differences between males and females. The symptoms of depressed adolescents grouped into 3 factors (endogenous, negative cognitions/suicidality, and appetite/weight), whereas the symptoms in children grouped into 2 factors (endogenous/negative cognitions/suicidality and appetite/weight).

Conclusions: These results provide further evidence for the continuity of MDD from childhood to adolescence.

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The prevalence of major depressive disorder (MDD) is approximately 2% in school-aged children¹ and 6% in adolescents.² Depressive episodes in youth are frequently associated with significant and persistent functional impairment, suicidal ideation, suicidal attempts, and substance abuse.^{3–5} Child and adolescent MDD is highly comorbid with other psychiatric disorders such as attention-deficit/hyperactivity disorder (ADHD), disruptive behavior, and anxiety disorders.⁶

In general, the clinical picture, course, and outcome of MDD in children and adolescents are similar.^{3,7–9} However, there are only 3 studies^{10–12} that have compared the clinical picture of MDD between children and adolescents, and some of the results are contradictory. Ryan et al.¹⁰ reported that children had more depressed appearance, somatic complaints, psychomotor agitation, separation anxiety, phobias, and hallucinations than adolescents. In contrast, adolescents had increased anhedonia, hopelessness, hypersomnia, weight loss and weight gain, use of alcohol and illicit drugs, and lethality of suicide attempt, but not severity of suicidal ideation or intent, compared with children. Depressed children had significantly more comorbid separation anxiety disorder than depressed adolescents (58% vs. 37%). A factor analysis of all psychiatric symptoms ascertained through the Kiddie Schedule for Affective Disorders and Schizophrenia, present version (KSADS-P)¹³ showed 5 factors (endogenous, anxious, negative cognitions, appetite and weight changes, and conduct) in both children and adolescents.¹⁰ Kolvin et al.¹¹ reported that the depressive symptomatology of a small sample of children and adolescents clustered into 4 factors: endogenous, negative cognitions, anxiety, and anger-agitation. Mitchell et al.¹² found that with the exception of significantly more hypersomnia in adolescents, there were no differences in the MDD symptom distribution between children and adolescents.

Differences in the results among the studies noted above may be accounted for by diverse methodologies. For example, most of the subjects included in Ryan and colleagues' study¹⁰ were outpatients, whereas 50% of the children included in Mitchell and colleagues' study¹² were inpatients. Moreover, about 4% of the sample recruited into Ryan and colleagues' study had bipolar disorder.

Table 1. Demographic Information for Children and Adolescents With Major Depressive Disorder

Variable	Children (N = 201)	Adolescents (N = 715)	Statistical Test	p Value
Age, mean \pm SD, y	10.5 \pm 1.8	15.7 \pm 1.3	t = -37.826	\leq .001
Gender, % female	40.8	68.0	$\chi^2 = 49.186$	\leq .001
Race, %				
White	82.1	80.0	$\chi^2 = 0.436$	NS
African American	15.4	17.3	$\chi^2 = 0.411$	NS
Others	2.5	2.7	$\chi^2 = 0.018$	NS
Socioeconomic status, mean \pm SD ^a	37.4 \pm 14.2	37.1 \pm 13.7	t = 0.262	NS

^aMeasured with the Hollingshead Four-Factor Index of Social Position.

Abbreviation: NS = nonsignificant.

Since few studies have investigated the differences in clinical picture between children and adolescents, and these studies have some methodological limitations, to replicate and extend the current literature on the phenomenology of MDD, we compared the clinical characteristics of depression in children and adolescents and analyzed the effects of age and sex on the manifestations of MDD.

METHOD

Subjects

The sample was obtained from a database of 2046 patients consecutively assessed with the KSADS-P¹³ who attended the child and adolescent outpatient mood and anxiety disorders program at the Western Psychiatric Institute and Clinic (Pittsburgh, Pa.) between April 1986 and April 1995. Of this sample, 916 subjects (715 adolescents and 201 children; 348 male and 568 female) had MDD (Table 1). The mean \pm SD age for children was 10.5 \pm 1.8 years (range, 5.6–12.9 years) and for adolescents was 15.7 \pm 1.3 years (range, 13.0–17.9 years). As expected, the male/female ratio in depressed children was approximately 1:1 and in adolescents was approximately 1:2. There were no statistically significant differences between the 2 age groups in socioeconomic status on the Hollingshead Four-Factor Index of Social Position,¹⁴ with a mean \pm SD rating of 37.4 \pm 14.2 for children and 37.1 \pm 13.7 for adolescents (social class III). Additionally, no significant difference was observed in race distribution between the 2 age groups (Table 1).

Clinical Assessment

Psychiatric disorders were ascertained with face-to-face interviews in youths and their parents (about their children) using the KSADS-P.¹³ The interviews were performed by a trained interviewer under the supervision of a child psychiatrist, who corroborated the diagnoses. Psychiatric diagnoses were ascertained according to DSM-III¹⁵ or DSM-III-R¹⁶ criteria. These DSM versions have similar criteria to DSM-IV¹⁷ to diagnose depression

in youth. The diagnosis of MDD with melancholic features was made according to DSM-IV criteria. The endogenous depressive subtype was determined based on the Research Diagnostic Criteria (RDC),¹⁸ which include loss of pleasure, lack of reactivity, decreased appetite, weight loss, terminal or middle insomnia, psychomotor agitation or retardation, distinct quality of mood, diurnal mood variation (worse in the morning), and guilt.

Statistical Analyses

For the comparison of depressive symptoms between children and adolescents, 31 items from the depression section of the KSADS-P were used (for a list of these symptoms, see Table 2). The KSADS-P rates each symptom as follows: 0 = no information; 1 = not at all; 2 = slight and of doubtful clinical significance; 3 = mild, of clinical significance; 4 = moderate; 5 = severe; 6 = extreme; and 7 = very extreme. Comparison of melancholic depressive symptoms, endogenous depression, rates of psychiatric comorbid disorders, and the frequency of symptoms with a score \geq 3 on the KSADS-P between depressed children and adolescents was made using χ^2 tests. To examine the relationship between symptoms of MDD and age, Spearman rho correlation coefficients were used. All statistical tests of significance were performed using 2-tailed tests with $\alpha = .05$. Bonferroni correction for multiple comparisons was used to reduce type I error (e.g., 31 depressive symptoms: 0.05/31). Factor analysis was done using principal component analysis and varimax rotation with Kaiser normalization of those factors with eigenvalue greater than 1.

RESULTS

Symptomatology

As depicted in Table 2, after Bonferroni correction, in comparison with depressed children, significantly more depressed adolescents had clinically significant hopelessness/helplessness (72.1% vs. 53.5%), lack of energy/tiredness (83.6% vs. 68.8%), hypersomnia (36.0% vs. 13.9%), weight loss (22.0% vs. 6.5%), seriousness of suicidal acts (25.5% vs. 10.4%), and medical lethality of suicidal acts (19.3% vs. 4.5%) (all p values \leq .001). Children's depressive or irritable mood was significantly more associated with specific events or preoccupations (65.3% vs. 51.6%) than adolescents' mood (p \leq .001). There were no other statistically significant differences (after Bonferroni correction) between children and adolescents. For the whole group, there was a small but significant correlation between age and suicidal ideation (rho = .115, p \leq .001), seriousness of suicidal acts (rho = .212, p \leq .001), and medical lethality of suicidal acts (rho = .205, p \leq .001).

There were no significant differences between children and adolescents in the frequency of subjects with melancholic (48.2% vs. 59.3%) or RDC endogenous (21.5% vs.

Table 2. Frequency of Clinically Significant^a Depressive Symptomatology in Children and Adolescents With Major Depressive Disorder, %

Symptom	Children (N = 201)	Adolescents (N = 715)	χ^2	p ^b
Depressed mood	92.0	94.9	2.455	NS
Depressed appearance	77.0	82.0	2.476	NS
Irritability and anger	91.5	88.8	1.249	NS
Distinct quality of dysphoric mood	46.3	51.8	1.810	NS
Degree of association of depressed or irritable mood with specific events or preoccupations	65.3	51.6	11.365	≤ .001
Reactivity of depressed or irritable mood	60.7	59.5	0.87	NS
Diurnal mood variation (worse in morning)	15.3	11.4	2.212	NS
Diurnal mood variation (worse in afternoon and/or evening)	27.8	28.3	0.023	NS
Excessive or inappropriate guilt	49.5	48.8	0.030	NS
Negative self-image	84.1	79.8	1.844	NS
Hopelessness, helplessness, discouragement, pessimism	53.5	72.1	24.686	≤ .001
Aches and pains	69.8	66.5	0.802	NS
Hypochondriasis	4.2	5.9	0.823	NS
Anhedonia, lack of interest, apathy, low motivation, or boredom	67.3	74.4	3.862	NS
Fatigue, lack of energy, and tiredness	68.8	83.6	21.488	≤ .001
Difficulty concentrating, inattention, or slowed thinking	75.5	77.5	0.340	NS
Psychomotor agitation	39.1	33.7	1.959	NS
Psychomotor retardation	39.0	47.2	4.282	NS
Social withdrawal	60.8	62.6	0.215	NS
Insomnia	64.8	68.0	0.695	NS
Hypersomnia	13.9	36.0	35.488	≤ .001
Anorexia	35.8	40.7	1.579	NS
Weight loss	6.5	22.0	24.771	≤ .001
Increased appetite	27.9	24.4	0.974	NS
Weight gain	18.1	16.9	0.142	NS
Suicidal ideation	60.7	71.9	9.259	.002
Seriousness of suicidal acts	10.4	25.5	20.483	≤ .001
Medical lethality of suicidal acts	4.5	19.3	25.588	≤ .001
Nonsuicidal physical self-damaging acts	10.1	18.7	8.258	.004
Severity of hallucinations	4.0	4.5	0.132	NS
Severity of delusions	0.5	2.4	2.876	NS

^aSymptoms with scores ≥ 3 on the Kiddie Schedule for Affective Disorders and Schizophrenia, present version.

^bAfter Bonferroni correction.

Abbreviation: NS = nonsignificant.

25.6%) depressive subtypes. In the total sample, there was a small but significant positive correlation between melancholic/endogenous symptoms and age (melancholia, $\rho = .126$, $p \leq .001$; endogenous subtype, $\rho = .125$, $p \leq .001$).

Comorbidity

Comorbid disorders in depressed children and adolescents are shown in Table 3. Depressed children had significantly more ADHD (14.9% vs. 6.2%), oppositional defiant disorder (12.9% vs. 7.1%), and separation anxiety disorder (18.4% vs. 3.1%) diagnoses than depressed adolescents (p values $< .05$). Adolescents had significantly more substance abuse/dependence (10.6% vs. 1.0%) than depressed children ($p \leq .001$). There were no other differences in comorbid disorders between children and adolescents.

Sex Differences

In the total sample, depressed females had significantly more increased appetite (28.7% vs. 19.2%), suicidal ideation (74.4% vs. 61.5%), seriousness of suicidal act (26.4% vs. 15.2%), medical lethality of suicidal

act (20.9% vs. 8.1%), and suicidal attempts in the last 12 months (42.7% vs. 27.4%) than depressed males ($p \leq .001$). No other differences between females and males were found.

When children and adolescents were analyzed separately, depressed female adolescents experienced significantly more increased appetite (28.7% vs. 15.7%), suicidal ideation (76% vs. 63.4%), medical lethality of suicidal act (23.6% vs. 10.1%), and suicidal attempts in the last 12 months (44.6% vs. 29.8%) than depressed male adolescents (p values $\leq .001$). Among the children, there were no statistically significant differences between females and males.

Factor Analysis

Factor analysis of depressed adolescents yielded 3 clinically significant factors accounting for approximately 40% of the variance: the endogenous, negative cognitions/suicidality, and appetite/weight factors (Table 4). For children, the depressive symptomatology grouped into 2 factors, endogenous/negative cognitions/suicidality and appetite/weight, which accounted for approximately 31% of the variance (Table 5). In the whole sample

Table 3. Comorbid Psychiatric Disorders in Children and Adolescents With Major Depressive Disorder, %

Diagnosis	Children (N = 201)	Adolescents (N = 715)	χ^2	p
Any anxiety disorder	34.8	27.7	3.857	.05
GAD/overanxious disorder	18.9	15.7	1.204	NS
Separation anxiety disorder	18.4	3.1	61.194	$\leq .001$
OCD	1.5	2.2	0.429	NS
Social phobia	4.5	4.9	0.060	NS
ADHD	14.9	6.2	16.256	$\leq .001$
Conduct disorder	10.0	11.9	0.581	NS
Oppositional defiant disorder	12.9	7.1	6.861	.009
Substance abuse/dependence	1.0	10.6	18.694	$\leq .001$
Eating disorder	0	0.4	0.846	NS

Abbreviations: ADHD = attention-deficit/hyperactivity disorder, GAD = generalized anxiety disorder, NS = nonsignificant, OCD = obsessive-compulsive disorder.

Table 4. Principal Component Factor Analysis of Depressive Symptomatology in Adolescents With Major Depressive Disorder

Symptom	Endogenous	Negative Cognitions/ Suicidality	Appetite/ Weight
Anhedonia	.560	...	...
Irritability and anger	.463	...	...
Excessive or inappropriate guilt	.392	...	...
Fatigue, lack of energy, and tiredness	.651	...	...
Difficulty concentrating, inattention, or slowed thinking	.631	...	...
Psychomotor retardation	.548	...	...
Psychomotor agitation	.326	...	...
Insomnia	.350	...	...
Depressed mood	.575	...	...
Hopelessness, helplessness, discouragement, pessimism	...	.403	...
Suicidal ideation	...	.880	...
Suicidal acts	...	.825	...
Anorexia	...	...	-.694
Weight loss	...	...	-.648
Increased appetite	...	...	.746
Weight gain	...	...	.747

(children and adolescents), principal component analysis yielded 3 factors that were similar to those of the adolescent sample.

DISCUSSION

In this study, we found that in comparison with children, adolescents had significantly more hopelessness/helplessness, lack of energy/tiredness, hypersomnia, weight loss, and suicidality. Children's depressive or irritable mood was significantly more associated with spe-

Table 5. Principal Component Factor Analysis of Depressive Symptomatology in Children With Major Depressive Disorder

Symptom	Endogenous/ Negative Cognitions/ Suicidality	Appetite/Weight
Anhedonia	.553	...
Irritability and anger	.451	...
Excessive or inappropriate guilt	.389	...
Fatigue, lack of energy, and tiredness	.584	...
Difficulty concentrating, inattention, or slowed thinking	.555	...
Psychomotor retardation	.467	...
Insomnia	.343	...
Depressed mood	.650	...
Hopelessness, helplessness, discouragement, pessimism	.644	...
Suicidal ideation	.470	...
Suicidal acts	.379	...
Anorexia	...	-.649
Weight loss	...	-.570
Increased appetite	...	.777
Weight gain	...	.783

cific events or preoccupations than adolescents' mood. Adolescents had more substance abuse and less comorbid separation anxiety, oppositional defiant disorder, and ADHD than depressed children. Depressed female adolescents had more suicidal ideation and behaviors than male depressed youth. The symptoms of depressed adolescents factorized into endogenous, negative cognitions/suicidality, and appetite/weight, whereas the symptoms in children grouped into endogenous/negative cognitions/suicidality and appetite/weight.

Before discussing these results, it is important to consider the limitations of this study. Past psychiatric disorders were not documented because psychiatric symptoms were ascertained using the present version of the KSADS. The low ratio of eating disorders in this study may be accounted for by the fact that in our institution subjects with eating disorders are referred to the eating disorders program. Additionally, family psychiatric history was not evaluated. Finally, most of the subjects who participated in this study were white, and they attended a mood disorder clinic.

Consistent with other studies,^{10,12} there were similarities in the symptom presentation of depressed children and adolescents. Nevertheless, perhaps due to chronicity of depression, comorbid substance abuse, increased likelihood of being exposed to negative stressful situations, and effects of puberty, during adolescence, we found that the symptoms of depression worsen, particularly hopelessness/helplessness, tiredness, hypersomnia, weight loss, and suicidality. The few differences with other phenomenological studies of childhood depression,¹⁰⁻¹² including the rates of psychosis, suicidality, and separation anxiety, can be accounted for by methodologi-

cal differences such as origin of the sample (outpatients vs. inpatients), instruments used, sample size, and the inclusion of depressed bipolar patients by other studies.¹⁰

Since in adult studies melancholic or psychotic depressions have been associated with poor prognosis,¹⁹ we examined the rates of these subtypes of MDD in our sample. Unexpectedly, children and adolescents had similar rates of melancholic symptomatology (48.2% vs. 59.3%). Although there was a significant positive correlation between endogenous/melancholic symptoms and age, this correlation was too small to be clinically relevant. Similar findings have been reported by others.^{10,12,20} In the present study, the incidence of clinically significant hallucinations (KSADS score ≥ 3) was approximately 4% for both children and adolescents, and the incidence of delusions (KSADS score ≥ 3) was 0.5% and 2.4%, respectively. Prior studies of referred samples have reported that 10% to 22% of depressed adolescents and 22% to 38% of depressed children experience hallucinations.^{9,10,12,20,21} These studies have also shown that depressed children and adolescents have similar rates of delusions (approximately 4%–13%).^{9,10,12,20,21} Differences among these investigations may be attributed to characteristics of the subjects included in the studies. For example, our sample included only outpatients, whereas about 50% of Mitchell and colleagues¹² preadolescent sample were inpatients, and Ryan and colleagues¹⁰ included bipolar patients.

In contrast with our study and some epidemiologic investigations,^{22,23} other investigations have reported that in clinical populations, depressed children and adolescents have similar rates of suicide ideation and attempts.^{10,12} However, in one of these studies¹⁰ it was reported that adolescents chose suicidal methods of significantly greater lethality than children. Moreover, suicidality was significantly more common and severe in the adolescents with a longer duration of major depressive episode compared with those with a shorter duration of episode.¹⁰ Although it is not clear, the lower severity of suicidal behaviors found in our study and other epidemiologic studies of young children can be accounted for by their lack of cognitive maturation.

There were no sex differences in suicidality in children. In contrast, depressed female adolescents had significantly more suicidal ideation and attempts and greater lethality of attempts than depressed male adolescents. Differences in suicidality between females and males have been explained by more interpersonal life events, a more negative cognitive style, and early puberty, with the accompanying psychosocial and biological changes in females compared with males.^{24–26}

In general, studies have not reported other sex differences in symptom presentation between depression in children and adolescents.^{10,12} However, Ryan et al.¹⁰ reported that prepubertal boys with MDD had more fatigue than prepubertal girls, and Lewinsohn et al.²⁷ reported that

depressed adolescent females were much more likely to have depressive recurrences than males.

Consistent with the literature (e.g., Weiss and Weiss²⁸ and Kashani and Orvaschel²⁹), we found more comorbid ADHD and separation anxiety in children and more substance abuse in adolescents. Ryan and colleagues,¹⁰ but not Mitchell et al.,¹² also found more separation anxiety in children than in adolescents. However, Mitchell's group used a higher threshold to diagnose separation anxiety disorder than was used in Ryan and colleagues' study and our study.

Factor analyses of all depressive symptoms in children and adolescents together and adolescents alone yielded 3 clinically meaningful factors: endogenous, negative cognitions/suicidality, and appetite/weight. When the depressive symptoms of children were analyzed separately, perhaps due to the children's cognitive immaturity and less severe depressive symptoms, the endogenous, cognitive, and suicidal behaviors factorized together. Others also reported similar factor structures^{10,11} and that hopelessness and suicidality are usually associated.^{10,11,30,31} Ryan and colleagues¹⁰ also identified anxiety and conduct factors, but they included in the factor analyses symptoms of other psychiatric disorders. To avoid confounding effects of other non-MDD symptomatology, we only included the depressive symptoms for the factor analysis. Kolvin and colleagues,¹¹ in addition to the endogenous and cognitive factors, also found anger/irritability and anxiety factors. However, they suggested that a better definition of the major components probably emerges from the analysis of the combined data, which includes endogenous and negative cognitions components.

In summary, similar to other phenomenological studies,^{10,12} we found that although there are some differences in clinical presentation of MDD in children and adolescents, in general, they have similar depressive symptomatology. These results provide further evidence for the continuity of MDD from childhood to adolescence.³² Differences in suicidality and certain symptoms including hopelessness/helplessness, lack of energy/tiredness, hypsomnia, and weight loss can be accounted for by biological, sex, and psychosocial developmental factors^{24,25,32} as well as the chronicity of the illness.³²

Disclosure of off-label usage: The authors have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents has been presented in this article that is outside U.S. Food and Drug Administration–approved labeling.

REFERENCES

1. Kashani JH, McGee RO, Clarkson SE, et al. Depression in a sample of 9-year-old children, prevalence and associated characteristics. *Arch Gen Psychiatry* 1983;40:1217–1223
2. Lewinsohn PM, Clarke GN, Seeley JR, et al. Major depression in community adolescents: age at onset, episode duration, and time to recurrence. *J Am Acad Child Adolesc Psychiatry* 1994;33:809–818
3. Birmaher B, Ryan ND, Williamson DE, et al. Childhood and adolescent

- depression: a review of the past 10 years, pt 1. *J Am Acad Child Adolesc Psychiatry* 1996;35:1427–1439
4. Levy JC, Deykin EY. Suicidality, depression, and substance abuse in adolescence. *Am J Psychiatry* 1989;146:1462–1467
 5. Puig-Antich J, Kaufman J, Ryan ND, et al. The psychosocial functioning and family environment of depressed adolescents. *J Am Acad Child Adolesc Psychiatry* 1993;32:244–253
 6. Angold A, Costello EJ, Erkanli A. Comorbidity. *J Child Psychol Psychiatry* 1999;40:57–87
 7. Birmaher B, Ryan ND, Williamson DE, et al. Childhood and adolescent depression: a review of the past 10 years, pt 2. *J Am Acad Child Adolesc Psychiatry* 1996;35:1575–1583
 8. Birmaher B, Arbelaez C, Brent D. Course and outcome of child and adolescent major depressive disorder. *Child Adolesc Psychiatr Clin N Am* 2002;11:619–637
 9. Carlson GA, Kashani JH. Phenomenology of major depression from childhood through adulthood: analysis of three studies. *Am J Psychiatry* 1988;145:1222–1225
 10. Ryan ND, Puig-Antich J, Ambrosini P, et al. The clinical picture of major depression in children and adolescents. *Arch Gen Psychiatry* 1987;44:854–861
 11. Kolvin I, Barrett ML, Bhate SR, et al. The Newcastle Child Depression Project: diagnosis and classification of depression. *Br J Psychiatry Suppl* 1991;11:9–21
 12. Mitchell J, McCauley E, Burke PM, et al. Phenomenology of depression in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 1988;1:12–20
 13. Chambers W, Puig-Antich J, Hirsch M, et al. The assessment of affective disorders in children and adolescents by semistructured interview: test-retest reliability of the Schedule for Affective Disorders and Schizophrenia for School-Age Children, present episode version. *Arch Gen Psychiatry* 1985;42:696–702
 14. Hollingshead AB. *Four-Factor Index of Social Position*. New Haven, Conn: Yale University Press; 1960
 15. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Third Edition*. Washington, DC: American Psychiatric Association; 1980
 16. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised*. Washington, DC: American Psychiatric Association; 1987
 17. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Washington, DC: American Psychiatric Association; 1994
 18. Spitzer RL, Endicott J, Robins E. Research Diagnostic Criteria: rationale and reliability. *Arch Gen Psychiatry* 1978;35:773–782
 19. Akiskal HS. Mood disorders: clinical features. In: Sadock BJ, Sadock VA, eds. *Kaplan & Sadock's Comprehensive Textbook of Psychiatry*, vol. 1. 7th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2000:1338–1377
 20. Strober M, Green J, Carlson G. Phenomenology and subtypes of major depressive disorder in adolescence. *J Affect Disord* 1981;3:281–290
 21. Chambers WJ, Puig-Antich J, Tabrizi MA, et al. Psychotic symptoms in prepubertal major depressive disorder. *Arch Gen Psychiatry* 1982;39:921–927
 22. Shaffer D, Pfeffer CR, Bernet W, et al. Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. *J Am Acad Child Adolesc Psychiatry* 2001;40:24S–51S
 23. Pataki CS. Mood disorders and suicide in children and adolescents. In: Sadock BJ, Sadock VA, eds. *Kaplan & Sadock's Comprehensive Textbook of Psychiatry*, vol. 2. 7th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2000:2740–2757
 24. Angold A, Costello EJ, Worthman CM. Puberty and depression: the roles of age, pubertal status and pubertal timing. *Psychol Med* 1998;28:51–61
 25. Nolen-Hoeksema S, Girgus JS. The emergence of gender differences in depression during adolescence. *Psychol Bull* 1994;115:424–443
 26. Wichstrom L. The emergence of gender difference in depressed mood during adolescence: the role of intensified gender socialization. *Dev Psychol* 1999;35:232–245
 27. Lewinsohn PM, Pettit JW, Joiner TE Jr, et al. The symptomatic expression of major depressive disorder in adolescents and young adults. *J Abnorm Psychol* 2003;112:244–252
 28. Weiss M, Weiss G. Attention deficit hyperactivity disorder. In: Lewis M, ed. *Child and Adolescent Psychiatry*. 3rd ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2002:645–670
 29. Kashani JH, Orvaschel H. Anxiety disorders in midadolescents: a community sample. *Am J Psychiatry* 1988;145:960–964
 30. Beck AT, Kovacs M, Weissman A. Hopelessness and suicidal behavior: an overview. *JAMA* 1975;234:1146–1149
 31. Brent DA. Correlates of the medical lethality of suicide attempts in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 1987;26:87–91
 32. Kaufman J, Martin A, King RA, et al. Are child-, adolescent-, and adult-onset depression one and the same disorder? *Biol Psychiatry* 2001;49:980–1001

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