

# Bipolar Disorders

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## BACKGROUND AND DEVELOPMENT

Over the past decade, bipolar disorder in children has received increasing attention from the scientific community, media, and general public (see review by Lofthouse & Fristad, 2004). Although interest has grown, continued research is essential, as bipolar disorder in children often devastates family life, school functioning, and peer relationships. If left untreated, it may have a prolonged, highly relapsing course; be less responsive to treatment; and lead to legal difficulties, multiple hospitalizations, and increased rates of substance abuse and suicide (Findling, Kowatch, & Post, 2003; Geller et al., 2003). Despite the detrimental effects of bipolar disorder, few studies have examined the specific effects it has on academic performance, school behavior and peer functioning, clinical–educational implications, or treatment options. This chapter describes the presentation of bipolar disorder in children, its development, specific problems in the school environment, and interventions.

### Definition of Key Concepts and Terms

Various terms have been used to describe bipolar disorder in children, including pediatric, juvenile, early-onset, childhood, and prepubescent bipolar disorder. However, the singular term *bipolar disorder* is misleading, as there appear to be a group of disorders (bipolar I [BP-I], bipolar II [BP-II], cyclothymia, and bipolar not otherwise specified [BP-NOS]). A more fitting reference frequently used in the adult literature is *bipolar spectrum disorders* (Akiskal, 1983). Furthermore, because of differences between adult-onset and childhood- or adolescent-onset bipolar spectrum disorders (see discussion below), the

term *early-onset bipolar spectrum disorder* (EOBPSD) is used when describing bipolar disorders that occur in persons younger than 18.

Although no epidemiological studies currently exist for children, Lewinsohn, Klein, and Klein's (1995) community school survey of 14- to 18-year-olds found lifetime prevalence rates for BP-I to be about 0.12% and for BP-II and cyclothymia to be about 1%. They reported an additional 5.7% with subthreshold symptoms, multiple comorbidities, and associated psychosocial impairment, which may constitute a group of adolescents with BP-NOS. By comparison, the cross-national lifetime prevalence for adults with bipolar spectrum disorders ranges from 3% to 6% (Weissman et al., 1996). A retrospective survey of 500 National Depressive and Manic-Depressive Association group members self-identified with "bipolar illness" found that nearly one-third (31%) recalled a variety of depressive and manic symptoms during childhood. An additional 28% reported onset during adolescence. Thus, over half of adults in this survey reported that their symptoms began prior to adulthood (Lish, Dime-Meenan, Whybrow, Price, & Hirschfeld, 1994).

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV; American Psychiatric Association, 1994), the four types of bipolar disorder can be distinguished on the basis of the frequency and severity of manic and depressive symptoms. An episode of mania involves a 1-week period or more (no duration, if hospitalized) of persistently and excessively elevated mood (i.e., inappropriately happy) or irritable mood (i.e., temper tantrums and rages out of proportion to events) that causes an observable change in functioning. A less severe and durable episode of mania, called hypomania, is characterized by a mood alteration of at least 4 days but without any noticeable functional

impairment. For both mania and hypomania, altered mood is accompanied by three or more (four, if mood is irritable and not elated) other symptoms. These symptoms include inflated self-esteem or grandiosity; decreased need for sleep; rapid, loud, or uninterruptible speech; racing thoughts; increased distractibility; increased goal-directed activity or psychomotor agitation; and excessive involvement in pleasurable or dangerous activities.

A major depressive episode involves a sad, empty, or irritable mood or a loss of interest and pleasure in previously enjoyable activities that lasts most of the day, nearly every day, for a 2-week period or longer. The depressed mood and/or loss of interest or pleasure is accompanied by three or four additional symptoms (for a total of five symptoms). These symptoms include insomnia or hypersomnia, significant weight loss or gain, fatigue, psychomotor agitation or retardation, difficulty concentrating, feelings of worthlessness or excessive guilt, and recurrent thoughts of death or suicide.

With regard to the four DSM-IV types of EOBPSD, BP-I is characterized by at least one manic episode, with or without a major depressive episode. The diagnosis of BP-I can be further specified by noting the nature (manic, hypomanic, depressed, or mixed) of the current and previous mood episodes. BP-II is typified by the occurrence of one or more major depressive episodes and one or more hypomanic episodes, without any history of a manic or mixed episode. Cyclothymic disorder is not as severe as either BP-I or BP-II, but the condition is more chronic, lasting for 1 year or more in children and adolescents. In contrast, BP-NOS is a disorder with bipolar features that does not meet the criteria for BP-I, BP-II, or cyclothymic disorder.

Accurate diagnosis of children with EOBPSD requires that bipolar symptoms be differentiated from normal behaviors of childhood. For example, children may become elated, giddy, and silly several days before a trip to Disneyland. However, if this mood change is extreme (e.g., described by parents as “out of the blue” or “way too high”) in reaction to ongoing events, it may be diagnostically significant. Similarly, children often engage in imaginative play in which they assume many roles, such as teacher, fireman, or superhero. This is typical in the context of play; however, this behavior becomes problematic when the child continues to assume such roles outside the context of play. For example, instead of pretending to instruct an imaginary classroom full of students, a child with EOBPSD may stand up in class and begin teaching her classmates because she believes she has more knowledge than the teacher.

EOBPSDs are some of the most difficult childhood disorders to assess, diagnose, and classify. Not only must clinicians differentiate clinically significant grandiosity and elation from normal temperamental differences in childhood, such as recklessness and bragging, they need to identify and discriminate EOBPSD symptoms from symptoms of other psychological and behavioral disorders, such as Attention Deficit Hyperactivity Disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD); learning disabilities and various anxiety, psychotic, and pervasive developmental disorders; medical disorders; substance abuse; and poor child-rearing (Kowatch et al., 2005). In addition, clinicians must identify the presence of manic symptoms in terms of a significant change from baseline, even if that baseline is already disrupted by another condition such as ADHD. In that case, the overlapping manic symptoms of distractibility, psychomotor agitation, involvement in dangerous activities, and pressure to keep talking must increase, along with a change in mood, above and beyond the baseline ADHD symptoms of inattention, hyperactivity, and impulsivity.

Another problem with accurately diagnosing EOBPSD is that manic symptoms in children may not be clearly episodic. However, the child still must show evidence of waxing and waning mood symptoms that frequently arise unexpectedly and are often unrelated to environmental events. During the altered (expansive, euphoric, or irritable) mood state, additional manic symptoms (e.g., grandiosity, racing thoughts, and decreased need for sleep) also must be present. Additional areas to assess include a thorough family, developmental, medical, social, and school history to understand symptom manifestation in the larger context of the child's life. Finally, a life chart should be developed to clearly demarcate onset, duration, severity, impairment, and offset of mood symptoms during the child's life to further distinguish the variety of EOBPSD subtype (BP-I, BP-II, cyclothymia, or BP-NOS). For a more detailed review of key issues and methods related to the assessment of EOBPSD, see Quinn and Fristad (2004).

### Developmental Aspects of EOBPSD

Although the etiology of EOBPSD is not known, substantial evidence in the adult literature and more recent research with children and adolescents suggest a biological basis involving genetics, various neurochemicals, and certain affected brain regions (see review by Findling et al., 2003). Because EOBPSD appears to have

biological origins that affect brain functioning, and as it is not intentional or caused by bad parenting, it can be considered a no-fault brain disorder. The initial manifestation of EOBPSD can be activated, and its developmental course exacerbated, by certain environmental factors, such as family, teacher, or peer conflict; academic stress; and disruption in the sleep–wake cycle (see review by Lofthouse & Fristad, 2004). Therefore, EOBPSD is best conceptualized as a biopsychosocial disorder and, as such, requires biopsychosocial interventions.

Regarding the onset of EOBPSD, Quinn, Lofthouse, Fristad, and Dingsus (2004) found that parents reported their 8- to 11-year-old children's manic and depressive symptoms starting at 8.8 and 8.6 years, respectively. In an interesting finding, the ages of onset reported by their children were younger: at ages 8.3 and 7.8 for symptoms of mania and depression, respectively. Currently, no studies exist charting the early development of EOBPSD from infancy to early childhood. However, the clinical history of children with EOBPSD, from toddler years or even infancy, often includes reports of intense colic that evolves into ongoing extreme irritability, “terrible two’s” that morph into “terrifying three’s,” and beyond. Many such children have preexisting problems with ADHD, ODD, CD, anxiety, and depression long before they are actually diagnosed with EOBPSD (McClellan, Werry, & Ham, 1993; Werry, McClellan, & Chard, 1991). It is important to note, however, that most children with colic and difficulties at ages 2 and 3 do not develop EOBPSD.

Retrospective research on 8- to 11-year-old children with EOBPSD (Kljun, Lofthouse, Fristad, & Dingsus, 2004) suggests that the majority (77%) of parents recalled their children experienced past behavior problems in school and had previous special education services (80%). More than half of the parents reported their children continue to have current behavior problem at school (55%) and receive special education services (64%). The only longitudinal study to date of children with EOBPSD (Geller, Tillman, Craney, & Bolhofner, 2004) followed a sample of 86 7- to 16-year-olds diagnosed with BP-I for 4 years. Although most of these youth were in treatment of some kind, at 6 months most participants (86%) still met criteria for mania. Rates of recovery (defined as 8 consecutive weeks without any DSM-IV diagnoses of mania or hypomania) and of relapse (defined as 2 consecutive weeks with DSM-IV diagnoses of mania or hypomania) were reported at 6-month, 2-year, and 4-year follow-up. Although many youth with EOBPSD recovered over time, the mean time

for recovery became longer between the 2- and 4-year assessments. After recovery, they relapsed at an increasingly higher rate over time, but the mean time to relapse after recovery also lengthened. For instance, at 6 months after baseline, recovery rates were low (14%), but they rose quite dramatically 1, 2, and 4 years later (37%, 65%, and 87%, respectively). Relapse rates after recovery followed a similar pattern, starting low at 6 months (16.7%), then increasing at 1, 2, and 4 years' follow-up (38%, 55%, and 64%, respectively). Furthermore, polarity switches, from mania and hypomania to MDD and minor depression, occurred on average 1.1 times every year.

Geller et al. (2004) also found low maternal–child warmth predicted relapse at the 2- and 4-year follow-up interviews, similar to research in the adult literature on the deleterious effect of high “expressed emotion” (which, in this case, refers to an intrusive, critical, or overinvolved style of interacting within a family) on the course of bipolar disorder in adults. Although the Geller study requires replication, no other characteristics of baseline symptoms that were assessed (e.g., MDD, ODD or CD, psychosis, mixed mania, continuous cycling, or global functioning) predicted relapse. However, the presence of psychosis at baseline did predict longer manic and hypomanic episodes.

Very little research has examined how EOBPSD may manifest differently with age. In comparison to adults, who are more likely to present with discrete cycles of mania and depression, children with EOBPSD may exhibit both manic and depressive symptoms at the same time or within the same day (Kowatch et al., 2005). Mood shifts in children are characterized by mixed states (i.e., simultaneous manic and depressive symptoms) and by rapid cycling (i.e., four or more mood episodes per year) and short duration (e.g., several hours, several times daily for several days in a row). Whereas mood states in adults with bipolar disorder are often expressed as euphoric or sad, manic and depressive moods in children often manifest as intense irritability. For children, this atypical presentation of symptoms often fails to meet the diagnostic criteria associated with BP-I, BP-II, or cyclothymia. Therefore, many children with EOBPSD are given the catchall diagnosis BP-NOS.

With respect to prognosis, as previously described, EOBPSD may include a prolonged and highly relapsing course; significant impairments in home, school, and peer functioning; legal difficulties; multiple hospitalizations; and increased rates of substance abuse and suicide. In short, children with EOBPSD have a chronic brain

disorder that is biopsychosocial in nature and, at this current time, cannot be cured or grown out of. However, children and their families can buffer themselves against further impairment by learning to manage dysfunctional mood, related comorbid symptoms, and environmental stressors. Means to do so are described later in this chapter. The more families can minimize symptoms and stressors, the closer children can come to experiencing normal developmental functioning.

## PROBLEMS AND IMPLICATIONS

### Problems Caused by the Core Manic and Depressive Symptoms

Mood symptoms wax and wane and may or may not be related to environmental triggers. They represent a significant change from the child's typical functioning. A child with EOBPSD can experience extremely intense emotions of sadness, tearfulness, rage, or elation and mixed states of simultaneously occurring manic and depressive symptoms.

Manic and depressive symptoms may express themselves in a variety of ways in the school environment (see Tables 1 and 2, respectively). Manic or depressive symptoms also can escalate and become potentially harmful to the child (e.g., engaging in suicidal behaviors or dangerous activities) or others (e.g., hitting the teacher or fellow pupils, destroying property, or making sexually inappropriate advances to classmates). Furthermore, severe mania or depression may lead to psychotic symptoms such as paranoia (e.g., a child truly believes someone is spying on him), delusions (e.g., a child believes a war in another country was his fault), and auditory or visual hallucinations (e.g., a child hears voices telling her to do bad things or sees skeletons playing basketball). Psychotic symptoms in the presence of manic or depressive symptoms do not mean the child has schizophrenia or a related psychotic disorder. Typically, these psychotic symptoms disappear when mood symptoms improve.

### Stressors Associated With EOBPSD

In addition to the impairment of school functioning caused by core manic and depressive symptoms, children with EOBPSD may have additional problems in school as a result of a combination of various stressors. One of these stressors is comorbidity. Children and adolescents diagnosed with EOBPSD typically have a large

number of co-occurring conditions, including ADHD (57%–98%), ODD or CD (41%–76%), and various anxiety disorders (13%–78%; see review by Lofthouse & Fristad, 2004). Substance abuse is less commonly an issue for children with EOBPSD, but Findling et al. (2003) suggested 50% to 70% of diagnosed adolescents will use and occasionally abuse various substances. School professionals need to be aware of the signs of substance abuse in youth with EOBPSD, as it can trigger further episodes of mania or be used to self-medicate symptoms in place of more safe and effective pharmacology.

Although children with EOBPSD have a high rate of ADHD, there are significant differences between these two disorders. Geller, Zimmerman, et al. (2000) compared a group of children and adolescents diagnosed with EOBPSD, with or without ADHD, to a group with ADHD alone. They found five DSM-IV mania-specific symptoms provided the best discrimination between the EOBPSD/ADHD and ADHD-only groups: Elated mood (89% and 14%, respectively), grandiosity (86% and 5%, respectively), flight of ideas/racing thoughts (71% and 10%, respectively), decreased need for sleep (40% and 6%, respectively), and hypersexuality (43% and 6%, respectively).

The presence of multiple disorders in adolescents with EOBPSD has also been associated with greater psychosocial impairment (Lewinsohn et al., 1995). Among children diagnosed with both ADHD and CD, those who also had manic episodes showed far greater impairment (Biederman et al., 1997). Of those children with mania, ADHD, and CD, 38% were retained in school, 86% needed extra help, and 71% were in a special education class. In contrast, only 18% of children with ADHD and CD, without mania, were retained, 35% needed extra help, and 3% were in a special education class.

Comorbid conditions might act as stressors, triggering future episodes of mania or depression (e.g., an increase in separation anxiety disorder symptoms and poor-quality sleep related to moving to a new middle school could prompt a manic episode). Additionally, these co-occurring conditions often warrant clinical attention in their own right because of their debilitating effects on academic, behavioral, and peer dysfunction. Therefore, as a result of the prevalence and impairments associated with comorbidity, the evaluation, accurate identification, and effective treatment of comorbid conditions in children and adolescents with EOBPSD are essential.

In addition, other factors that may contribute to the above problems include teacher, parent, and sibling

**Table 1** *Manic Symptoms and Their Expression in the School Environment*

| <b>Symptom and Definition</b>                                                                                                                                                                                                   | <b>Example</b>                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Euphoria:</b> Elevated (too happy, silly, giddy) and expansive (about everything) mood, “out of the blue” or as an inappropriate reaction to external events for an extended period of time.                                 | A child laughs hysterically for 30 minutes after a mildly funny comment by a peer and despite other students staring at him.                                               |
| <b>Irritability:</b> Energized, angry, raging, or intensely irritable mood, “out of the blue” or as an inappropriate reaction to external events for an extended period of time.                                                | In reaction to meeting a substitute teacher, a child flies into a violent 20-minute rage.                                                                                  |
| <b>Inflated Self-Esteem or Grandiosity:</b> Believing, talking, or acting as if he is considerably better at something or has special powers or abilities despite clear evidence to the contrary.                               | A child believes and tells others she is able to fly from the top of the school building.                                                                                  |
| <b>Decreased Need for Sleep:</b> Unable to fall or stay asleep or waking up too early because of increased energy, leading to a significant reduction in sleep yet feeling well rested.                                         | Despite only sleeping 3 hours the night before, a child is still energized throughout the day.                                                                             |
| <b>Increased Speech:</b> Dramatically amplified volume, uninterruptible rate, or pressure to keep talking.                                                                                                                      | A child suddenly begins to talk extremely loudly, more rapidly, and cannot be interrupted by the teacher.                                                                  |
| <b>Flight of Ideas or Racing Thoughts:</b> Report or observation (via speech/writing) of speeded-up, tangential, or circumstantial thoughts.                                                                                    | A teacher cannot follow a child’s rambling speech that is out of character for the child (i.e., not related to any cognitive or language impairment the child might have). |
| <b>Distractibility:</b> Increased inattentiveness beyond child’s baseline attentional capacity.                                                                                                                                 | A child is distracted by sounds in the hallway, which would typically not bother her.                                                                                      |
| <b>Increase in Goal-Directed Activity or Psychomotor Agitation:</b> Hyper-focused on making friends, engaging in multiple school projects or hobbies or in sexual encounters, or a striking increase in and duration of energy. | A child starts to rearrange the school library or clean everyone’s desks, or plans to build an elaborate fort in the playground, but never finishes any of these projects. |
| <b>Excessive Involvement in Pleasurable or Dangerous Activities:</b> Sudden unrestrained participation in an action that is likely to lead to painful or very negative consequences.                                            | A previously mild-mannered child may write dirty notes to other children in class or attempt to jump out of a moving school bus.                                           |

stress; sleep disruptions; and time spent out of school related to an escalation of symptoms, treatment, and school-mandated suspensions or expulsions. As resources only recently have become available to educate and train teachers about EOBPSD and how to manage it in the classroom (see Recommended Resources), it is likely that

teachers and other school professionals feel doubly frustrated, as they are dealing with significant and acute problems, often while lacking knowledge and training in how to handle these situations.

Two potential sources of stress that occur within the home—the effects of which may extend to the school

## Children's Needs III

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**Table 2** *Depressive Symptoms and Their Expression in the School Environment*

| <b>Symptom and Definition</b>                                                                                                                                                                            | <b>Example</b>                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Depressed Mood:</b> Feels or looks sad or irritable (low energy) for an extended period of time.                                                                                                      | A child appears down or flat or is cranky or grouchy in class and on the playground.                                                                                                                                                                                                                             |
| <b>Markedly Diminished Interest or Pleasures in All Activities:</b> Complains of feeling bored or finding nothing fun anymore.                                                                           | A child reports feeling empty or bored and shows no interest in previously enjoyable school or peer activities.                                                                                                                                                                                                  |
| <b>Significant Weight Lost/Gain or Appetite Increase/Decrease:</b> Weight change of >5% in 1 month or significant change in appetite.                                                                    | A child looks much thinner and drawn or a great deal heavier, or has no appetite or an excessive appetite at lunchtime.                                                                                                                                                                                          |
| <b>Insomnia or Hypersomnia:</b> Difficulty falling asleep, staying asleep, waking up too early or sleeping longer and still feeling tired.                                                               | A child looks worn out, is often groggy or tardy, or reports sleeping through alarm despite getting 12 hours of sleep.                                                                                                                                                                                           |
| <b>Psychomotor Agitation/Retardation:</b> Looks restless or slowed down.                                                                                                                                 | A child is extremely fidgety or can't stay seated. His speech or movement is sluggish or he avoids physical activities.                                                                                                                                                                                          |
| <b>Fatigue or Loss of Energy:</b> Complains of feeling tired all the time.                                                                                                                               | Child looks or complains of constantly feeling tired even with adequate sleep.                                                                                                                                                                                                                                   |
| <b>Low Self-Esteem, Feelings of Worthlessness or Excessive Guilt:</b> Thinking and saying more negative than positive things about self or feeling extremely bad about things one has done or not done.  | A child frequently tells herself or others "I'm no good, I hate myself, no one likes me, I can't do anything." She feels bad about and dwells on accidentally bumping into someone in the corridor or having not said hello to a friend.                                                                         |
| <b>Diminished Ability to Think or Concentrate, or Indecisiveness:</b> Increased inattentiveness, beyond child's baseline attentional capacity; difficulty stringing thoughts together or making choices. | A child can't seem to focus in class, complete work, or choose unstructured class activities.                                                                                                                                                                                                                    |
| <b>Hopelessness:</b> Negative thoughts or statements about the future.                                                                                                                                   | A child frequently thinks or says "nothing will change or will ever be good for me."                                                                                                                                                                                                                             |
| <b>Recurrent Thoughts of Death or Suicidality:</b> Obsession with morbid thoughts or events, or suicidal ideation, planning, or attempts to kill self.                                                   | A child talks or draws pictures about death, war casualties, natural disasters, or famine. He reports wanting to be dead, not wanting to live anymore, wishing he'd never been born; he draws pictures of someone shooting or stabbing him, writes a suicide note, gives possessions away or tries to kill self. |

environment—are child–sibling and child–parent conflict. Being the sibling or a parent of a child with EOBPSD is associated with a high level of stress (e.g., coping with unpredictable and severe outbursts, which often draw support away from other family members), physical demands (e.g., dealing with extreme and extended bouts of aggression, high energy, insomnia, and dangerous behaviors), and financial pressures (e.g., multiple and long-term treatments and time off work), some of which may intensify intrafamily conflicts. Given these multiple sources of stress, interventions designed to reduce sibling and parent stress should contribute to improved outcomes for the child at home that might carry over to improved school functioning.

Although a reduced need for sleep has been identified as a cardinal symptom of EOBPSD, very little research has explored sleep difficulties in this population, and no research we are aware of has examined sleep problems in children with EOBPSD that are associated with their depressive or comorbid psychopathology. However, preliminary results from an ongoing study of 104 8- to 11-year-olds with EOBPSD suggest that 94% of children with EOBPSD have sleep problems associated with either their manic, depressive, or comorbid psychopathology (Lofthouse, Fristad, Splaingard, & Kelleher, 2004). Presumably, sleep disruptions in children with EOBPSD will deleteriously affect academic, behavioral, and social functioning at school.

Taking the necessary time out of school for escalating and debilitating symptoms or for inpatient or outpatient treatment can further set back the already delayed child with EOBPSD in terms of developing the essential skills to function academically, behaviorally, and socially. Similarly, school-enforced suspensions and expulsions, often used for disciplining behaviors that may well be beyond the control of the mood-disordered child, not only can disrupt the learning and socialization process but also can lead to failing grades and increased dropout rates. Contemplating the transition back to school also can be a potent stressor for a child with EOBPSD. Furthermore, parents, children, and teachers often report the child with EOBPSD has great difficulty with simple classroom transitions.

### **Educational Implications of EOBPSD**

Although research is limited on academic functioning of children with EOBPSD, studies reported that 24% of children with EOBPSD repeated a grade, 13% had learning disabilities, 43% had special education placements, 58% received tutoring (Biederman, Faraone,

Chu, & Wozniak, 1999), and 30% and 42% had math and reading disabilities, respectively (Wozniak, et al., 1995). Compared with children with MDD or dysthymic disorder, children with EOBPSD evidence a trend toward more placements in special education classrooms (Fristad, Goldberg-Arnold, & Gavazzi, 2002).

As discussed earlier, in the retrospective study of 8- to 11-year-old children with EOBPSD, the majority of parents reported past and current special education services (Kljun et al., 2004). A related study that used similar participants reported that most parents (79%) and teachers (72%) and many children (46%) reported current difficulties with academics at school (Griffith, Lofthouse, Fristad, & Dingus, 2004).

Adolescents with EOBPSD also experience significant impairments in academic functioning. Quackenbush, Kutcher, Robertson, Boulos, and Chaban (1996) examined 44 adolescents with EOBPSD and found that prior to onset of their illness, 71% had good-to-excellent work effort, 58% were identified as having specific academic strengths, and 83% were taking college preparatory classes. After the onset of the disorder, however, teachers reported adolescents' work effort had diminished drastically; 67% had significant difficulties in math, and only 38% of the 37 students who were of age had graduated from high school.

Others have reported that children and adolescents with EOBPSD score higher on verbal measures of IQ than on visual–spatial measures of IQ (Shear, DelBello, Rosenberg, & Strakowski, 2002). This discrepancy may contribute to the difficulties children with EOBPSD often have with math achievement and decoding of nonverbal social cues, both of which require good visual–spatial abilities. Children with EOBPSD also have functional deficits on measures of attentional set-shifting and visual–spatial memory (Dickstein et al., 2004), whereas adolescents with EOBPSD have demonstrated impairment on tasks requiring executive functioning, such as systematic problem-solving and self-monitoring behavior (Shear et al.). Retrospective data on adolescents with EOBPSD also reveal developmental histories with significantly more language and motor delays than adolescents with unipolar depression (Sigurdsson, Fombonne, Sayal, & Checkley, 1999).

### **Social Implications of EOBPSD**

Very little research exists on the social problems of children and adolescents with EOBPSD in the school environment. However, difficulties with social skills and

having few or no friends have been reported (Geller, Bolhofner, et al., 2000), and these children may show higher levels of aggression than their peers (Geller, Warner, Williams, & Zimmerman, 1998). For 8- to 11-year-olds with EOBPSD, the majority of parents and children report difficulties with peers; over half of the children report having no friends, and over half of the parents report their child does not have a best friend (Kljun et al., 2004). Similarly, teachers report 8- to 11-year-olds with EOBPSD have moderate to severe difficulties with antisocial behavior, social competence, withdrawn behavior, interpersonal skills, and self-management skills (Griffith et al., 2004).

### Problems and Implications—Summary

Despite the scarcity of studies, research suggests children and adolescents with EOBPSD have numerous, severe, and durable problems with manic and depressive symptoms with serious developmental, educational, and social implications. The high level of comorbidity associated with EOBPSD; teacher, parent, and sibling stress; sleep disruptions; and time spent out of school may all contribute to these problems.

## ALTERNATIVE ACTIONS FOR PREVENTION AND INTERVENTION

Although studies on the offspring of adults with bipolar disorders are in progress (see Chang & Steiner, 2003), currently no evidence-based prevention programs, strategies, or techniques exist for promoting healthy development and preventing negative outcomes in predisposed children. However, many of the strategies and techniques described below may be helpful for preventing continued impairment in children diagnosed with EOBPSD. Given the chronic nature of EOBPSD, efforts should be made to increase resiliency and recovery using a combination of effective pharmacological, psychosocial, and school interventions.

### Pharmacological Treatments

Pharmacological intervention is the foundation of effective treatment for EOBPSD. Research and clinical practice indicate that most children require multiple medications to alleviate symptoms of mania,

depression, and co-occurring conditions. Although medications have not been adequately studied in children with EOBPSD, clinical practice indicates their potential utility. Because most school professionals will be informed about the brand rather than chemical names of medications children take, the following section notes brand names only.

Mood stabilizers (e.g., Depakote, Lithium, Gabitril, Lamictal, Tegretol, Trileptal, and Topamax) are considered the first line of pharmacological intervention. Antipsychotic medications (e.g., Abilify, Clozaril, Geodon, Risperdal, Seroquel, and Zyprexa) may help reduce aggressive or psychotic symptoms, and antihypertensive medications (e.g., Clonidine and Tenex) are sometimes used to improve the sleep-wake cycle. After a child's mood has been stabilized with a mood stabilizer, low-dose adjunctive antidepressant medications (e.g., Celexa, Lexapro, Luvox, Prozac, Remeron, Serzone, Wellbutrin, and Zoloft) may reduce depressive and anxiety symptoms, and adjunctive psychostimulants (e.g., Adderal, Concerta, Dexedrine, Focalin, Metadate, and Ritalin) and norepinephrine reuptake inhibitors (e.g., Strattera) may reduce ADHD symptoms of inattention, impulsivity, and hyperactivity. However, both antidepressants and psychostimulants pose a risk of activating manic symptoms, so they must be carefully monitored. Furthermore, school professionals should be aware of the major side effects students' medications may have in the school environment (e.g., chronic thirst, increased urination, and drowsiness) and should know how to help their students cope with them (e.g., more frequent bathroom breaks or changes in school schedule). For a more detailed review of the findings and issues in pharmacotherapy of EOBPSD, see Findling et al. (2003).

Finally, although dietary interventions such as Omega-3 fatty acids and high-intensity vitamin-mineral complexes have been tried in children, their efficacy is still being tested, and only case series data are available (Kaplan, Crawford, Gardner, & Farrelly, 2002). As evidence for efficacy in some of the medicines being used for EOBPSD is currently stronger, families are encouraged to begin treatment with those agents first.

### Psychological Treatments

Whereas pharmacological interventions are viewed as the foundation for effective treatment for EOBPSD, psychological interventions can be seen as the real-world building blocks of resiliency and recovery. Psychological

interventions might include some combination of family therapy, individual therapy, parental guidance, group therapy, school-based intervention, home-based treatment, respite, out-of-home placement, or web-based support.

As recently as 1999, no evidence-based guidelines existed for psychosocial interventions with children who have EOBPSD (Fristad et al., 2002). Since then, three groups have developed interventions for children (Fristad, Gavazzi, & Mackinaw-Koons, 2003), children and adolescents (Pavuluri, Graczyk et al., 2004), and adolescents (Miklowitz et al., 2004). To date, only the multifamily psychoeducational groups (MFPG) and individual–family psychoeducation (IFP) developed by Fristad et al. (2003) have been tested in randomized clinical trials. MFPG and IFP teach parents and children about mood disorders, symptoms, and co-occurring disorders; pharmacological, mental health, and school- and community-focused interventions; and coping and self-preservation skills. Interventions are time limited, with the expectation that ongoing work of a similar nature will be required to maintain treatment gains over time for this chronic illness. Participation is expected to increase parents' and children's knowledge of EOBPSD and its treatment and to expand their repertoire of individual and family coping skills, which it is hoped will lead to more effective and efficient use of existing and future treatments. For a more detailed description of the MFPG's session contents and clinical tools, see Fristad and Goldberg-Arnold (2003) and Goldberg-Arnold and Fristad (2003).

Originally, MFPG consisted of a 6-week, 75-minute group treatment. It has since expanded to an 8-week, 90-minute format. MFPG has separate parent and child groups with combined check-in and check-out sessions at the beginning and end of each group. In the first study, families were randomized into immediate treatment or a 6-month wait-list prior to receiving treatment. All families continued to receive treatment as usual, which included medication management, as MFPG is an adjunctive intervention. Results from 35 participating 8- to 11-year-old children and their 47 participating parents indicate parents' knowledge about childhood mood disorders increased; parent–child relationships, as rated by parents, improved; children's ratings of perceived social support from parents increased (Fristad et al., 2002); and parents' consumer skills (i.e., their ability to obtain appropriate services) improved (Goldberg-Arnold, Fristad, & Gavazzi, 1999). A full-scale, randomized study ( $N = 165$ ) of the expanded

8-week, 90-minute format is now under way to further establish efficacy of the MFPG program.

In an uncontrolled pilot study of 34 participating 5- to 17-year-olds with EOBPSD, Pavuluri, Graczyk, Henry et al. (2004) assessed the impact of their child- and family-focused cognitive–behavioral therapy program (CFF-CBT or “Rainbow Program”). After all children were initially prescribed medication according to a specific algorithm (Pavuluri, Henry et al., 2004), CFF-CBT was delivered through 12 individual parent-and-child sessions. Parent-and-child treatment components included psychoeducation regarding the neuropsychiatric basis of bipolar disorder and the importance of routines; and skill building to improve affect regulation and anger control, increase positive self-statements, restructure negative thinking for living in the now, promote a balanced lifestyle (for parents), increase interpersonal and situational problem-solving, and develop support systems. Additionally, the child's school received a work folder of the individual sessions, and the school staff had a teleconference with the treatment therapist. Participants showed reductions in symptoms of ADHD, aggression, mania, psychosis, depression, and sleep disturbance; increases in global functioning; and high levels of treatment adherence and satisfaction (Pavuluri, Graczyk et al.).

Finally, Miklowitz et al. (2004) tested an adolescent version of Functional Family Therapy for Adolescents (FFT-A) combined with mood-stabilizing medications in an open trial of twenty 13- to 17-year-olds with BP-I. Treatment components, delivered by a standardized manual, included psychoeducation, family problem-solving, communication, crisis management, and the rehearsal of coping strategies for future relapses. Adolescents who received a combination of FFT-A and mood stabilizers experienced improvements in depressive, mania, and behavioral symptoms 1 year later. Although psychosocial treatment for families of children and adolescents with EOBPSD is a relatively new area, these new studies offer some hopeful and exciting future possibilities.

### School-Based Treatments

Unfortunately no research-supported, school-based interventions currently exist for EOBPSD. However, a number of potentially beneficial clinical and educational recommendations for school difficulties are available from several sources:

- The website of the Child and Adolescent Bipolar Foundation (CABF), at <http://www.bpkids.org>.

- The Juvenile Bipolar Research Foundation (JBRF) at <http://www.jbrf.org>.
- The Josselyn Center's *Understanding and Educating Children and Adolescents with Bipolar Disorder: A Guide for Educators* (Anderson, Kubisak, Field, & Vogelstein, (2003).
- Fristad and Goldberg-Arnold's 2004 book, *Raising a Moody Child: How to Cope with Depression and Bipolar Disorder*.

The seven fundamental recommendations that appear below are adapted from these four sources.

1. *Build, maintain, and educate the school-based team.* It is critical for the child, family, and school personnel to work together. Working in isolation or at cross-purposes with other team members can be highly ineffective, frustrating, and potentially devastating. The first step involves thinking broadly about who might be included on an education team. Qualified persons could be anyone in the school environment (e.g., secretary or custodian) or child's life (e.g., Cub Scout leader or rabbi) who can provide consistent and effective support in assisting the child to cope with and recover from symptoms and related impairments. Second, successful maintenance of an education team rests on communication among its members and the setting and monitoring of observable goals. Third, it is important for the education team to have a firm foundation of knowledge about EOBPSD to be able to identify, understand, and flexibly work with the kinds of educational challenges EOBPSDs present.
2. *Prioritize individualized education plan (IEP) goals.* The Josselyn Center's *Guide for Educators* presents a hierarchy of basic priorities for educating children with EOBPSD. These include attendance, emotional stability and physical safety, knowledge acquisition, relationship building, and work production.
3. *Provide a predictable, positive, and flexible classroom environment.* Although predictability in the classroom environment is no doubt good for all students, it appears to be exponentially more important for children with EOBPSD, perhaps because of their unpredictable mood cycles. School professionals can increase predictability by providing organized classrooms, daily routines that are structured and consistent, and clear expectations coupled with a positive discipline strategy.

Negative consequences, such as ignoring attention-getting behaviors, giving time-outs, removing privileges, assigning remedial work, and using suspension and expulsion, are often used to reduce unwanted behaviors. However, if the behavior (e.g., a euphoric or irritable mood) is not one the child has the cognitive, emotional, or behavioral skills to control, negative consequences may not only be ineffective in reducing that behavior, they could actually increase it.

As symptoms of EOBPSD wax and wane within the developing child, maintaining flexibility is critical. It may be necessary to modify expectations regarding the amount, content of, and time allowed for activities, assignments, and tests, based on the child's fluctuations in mood, attention, energy, and motivation.

4. *Be aware of and manage medication side effects.* Children with EOBPSD are frequently prescribed multiple medications. It is important for school professionals to be kept up-to-date with the child's medications and any related side effects (e.g., increased thirst and urination, drowsiness, or sluggishness). Common classroom interventions include unlimited access to fluids and the restroom, and rescheduling of the most challenging activities to times when side effects are less pronounced (e.g., after lunch).
5. *Develop social skills.* Many children with EOBPSD have social-emotional skills deficits. They may misinterpret jokes, act shy, be bossy or bully, or become a victim of bullying. Providing support from the guidance counselor, psychologist, or social worker; allowing the child to participate in a social skills group; and increasing playground supervision to avert bullying can all help the child with EOBPSD function better at school.
6. *Be prepared for episodes of intense emotion.* Because a child with EOBPSD may experience dramatic, unexpected, and intense shifts of mood and emotion during the school day, a functional behavior assessment can help identify triggers that may precede losses of control and can guide the development of a behavior plan to help the child and school professional prevent or cope with stressors and frustrations. For instance, if episodes are triggered by boredom, school professionals can provide enrichment activities; if episodes are due to hunger or low blood sugar, the child should eat mid-morning and afternoon snacks; or if episodes occur during particularly difficult activities, temporarily reducing demands to a level the child can manage will reduce stressors. An important intervention for

children with EOBPSD is to have available the use of a safe or private place the child can visit to regain control (e.g., guidance office or resource room) and to establish a secret signal for the child and teacher to covertly communicate the need to take a brief time-out during class.

Preparation for episodes of intense emotion also may include the development of a crisis management plan that involves crisis prevention strategies. This crisis management plan should include the following:

- Explicit instructions to manage unsafe behaviors (i.e., who does what, when, and where).
- Details regarding the location, supervision of, and expectations surrounding safe and private places (e.g., designating the guidance counselor's office as a safe place and making sure the child gets there and returns to the classroom as soon as possible after calming down).
- The development and practice of a specific communication system to implement procedures quickly (e.g., a child could give a "T" hand signal to communicate the need to go to his or her safe place).
- Alternative backup plans (e.g., walking around the gym with an adult if time in the safe place didn't work).
- Recovery procedure for all involved following the crisis (e.g., destress and debrief as a class, with the child included, in order not to ostracize the child).

Following hospitalization or after an upsurge in symptoms that precludes success in negotiating an entire school day, it is critical that the education team prepare for the child's transition back to school to prevent further disruption. The team might arrange for temporary homebound instruction, followed by a gradual transition back to school, if needed, or the team might arrange for partial days at school.

7. *Consider alternatives to regular classrooms.* If symptoms escalate and become potentially harmful to the child and others in the regular classroom, the education team may need to consider the temporary or even permanent support of more restrictive educational environments. These may include (in order of least to most restrictive) regular classroom with a one-to-one aide, special education teacher or resource room support, self-contained classroom, home schooling, therapeutic day school, hospital day treatment program, residential treatment center, or therapeutic boarding school. The

website for the National Association of Therapeutic Schools and Programs (<http://www.natsap.org>) can be helpful in locating programs suited to a child's particular needs. Though no research to date has evaluated these alternatives to standard educational placements, it can be assumed their effectiveness will be enhanced if their staff have accurate and up-to-date knowledge of EOBPSD and its manifestations in school settings.

## SUMMARY

Early-onset bipolar spectrum disorders (EOBPSD) are severe, highly comorbid, chronic, cyclical, and frequently relapsing biopsychosocial mood disorders of childhood and adolescence. The core symptoms of manic and depressive symptoms can be further exacerbated by the secondary problems of comorbidity; teacher, parent, and sibling stress; sleep disruptions; and time spent out of school. Interacting in a dynamic, caustic, debilitating cycle, this constellation of problems can lead to a further escalation of core symptoms, secondary problems, and devastating effects on developmental, home, school, and peer functioning.

Although EOBPSD cannot currently be cured or grown out of, children, their families, and school professionals can help to increase resiliency and recovery by the combined use of effective medications, psychoeducation, and psychosocial and school interventions designed to manage dysfunctional mood, related comorbid symptoms, and environmental stressors. Despite the recent development and testing of family-based psychosocial treatments for EOBPSD, no empirically supported school-based programs currently exist. One of the main challenges facing researchers of treatment outcomes is how to scientifically examine school interventions for a group of disorders that are relatively infrequent.

Despite the lack of research on school interventions, a number of potentially beneficial clinical and educational recommendations are available. Seven fundamental recommendations were described in this chapter. In conclusion, although EOBPSD is often chronic, variable, and damaging to family life, school functioning, and peer relationships, it is important not to lose hope. Several effective treatment tools currently exist, and with the increasing professional and public interest EOBPSD has received in recent years, additional treatments are likely to become available in the future.

## RECOMMENDED RESOURCES

## Books and Other Printed Material

Anderson, M., Kubisak-Boyd, J., Field, R., & Vogelstein, S. (2003). *Understanding and educating children and adolescents with bipolar disorder: A guide for educators*. Northfield, IL: The Josselyn Center.

This manual for educators provides ideas and principles to guide the assessment and intervention of children and adolescents with EOBPSD in educational settings.

Fristad, M., & Arnold, J. G. (2004). *Raising a moody child: How to cope with depression and bipolar disorder*. New York: Guilford Press.

This book for parents offers direct, easy-to-follow information and recommendations for families with children who suffer from mood disorders. Incorporating real-life examples, practical suggestions, and answers to frequently asked questions, this book covers important issues, including knowing when a child needs help, how parents can get a good evaluation, medical and psychological treatment options, crisis management, coping tools for the whole family, and how parents can help their child cope in school.

## Websites

<http://www.bpkids.org>

The Child & Adolescent Bipolar Foundation is a parent-led, not-for-profit, Internet-based organization of families raising children diagnosed with EOBPSD. The Resources—Printed Materials section of the website includes a brochure for educators called “Educating the Child with Bipolar Disorder.” The Learning Center page has information on educational issues of pediatric bipolar disorder. In its bookstore, the CABF also sells an interactive CD for school personnel, “What is Pediatric Bipolar Disorder? A Resource for Educators.”

<http://www.jbrf.org>

The Juvenile Bipolar Research Foundation (JBRF) is a web-based charitable organization of parents, clinicians, and researchers dedicated to the support of research on EOBPSD. The Discussion Forums section of the website provides information on the educational issues of students with bipolar disorder. Also in this section, the JBRF sells a DVD of a Janice Papolos presentation, “Educating and Nurturing the Bipolar Child.”

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