

Vol. 2, No. 3 2008

## Diagnosing and Treating Childhood Bipolar Disorder

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Our Fall 2008 issue looks at bullying in all venues, including the schoolyard, and among children of various ages. We also take a brief look at a modern twist on an old problem—online bullying.

### About the Children's Health Policy Centre

As an interdisciplinary research group in the Faculty of Health Sciences at Simon Fraser University, we aim to connect research and policy to improve children's social and emotional well-being, or *children's mental health*. We advocate the following public health strategy for children's mental health: addressing the determinants of health; preventing disorders in children at risk; promoting effective treatments for children with disorders; and monitoring outcomes for all children. To learn more about our work, please see [www.childhealthpolicy.sfu.ca](http://www.childhealthpolicy.sfu.ca)



## Children's Health Policy Centre

VOL. 2, NO. 3 2008

### About the Quarterly

The *Quarterly* is a resource for policy-makers, practitioners, families and community members. Its goal is to communicate new research to inform policy and practice in children's mental health. The publication is funded by the British Columbia Ministry of Children and Family Development, and topics are chosen in consultation with policy-makers in the Ministry's Child and Youth Mental Health Branch.

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SIMON FRASER UNIVERSITY  
THINKING OF THE WORLD

# Quarterly

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#### How to Cite the Quarterly

We encourage you to share the *Quarterly* with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

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## Overview

### A Basic Guide to Bipolar Disorder

**J**ames was feeling on top of the world. Even after being up all night gaming online, he was more than ready for his Grade 12 history exam. James knew the plans for his archaeological dig would earn him an A and worldwide recognition for the incredible discoveries he was about to make. As James recounted his fantastic plans to his best friend, Scott, during their bike ride to school, he could barely get the words out quickly enough. When James barreled through a red light as he abruptly began describing his gaming successes, Scott only had time to scream. James could not believe Scott's overreaction. It was just like the time his girlfriend became hysterical after she learned that he got together with a girl he met online.



**Few epidemiological studies have assessed the prevalence of childhood bipolar disorder.**

#### What is bipolar disorder?

James's story illustrates the experiences faced by people who have bipolar disorder. The DSM-IV-TR describes four types of bipolar disorder.<sup>1</sup> To be diagnosed with the most serious among them, Bipolar I, a child must experience at least one manic or mixed mood episode\* involving an abnormally elevated or irritable mood, plus at least three other symptoms, for at least one week.<sup>1</sup> The symptoms must cause impairments in functioning.

Many signs of mania (see sidebar) overlap with symptoms of other disorders. Expansive mood, grandiosity, racing thoughts and hypersexuality can be particularly useful in diagnosing bipolar disorder as they are highly specific to this condition.<sup>2</sup>

#### How common is childhood bipolar disorder?

Very few epidemiological studies have assessed the prevalence of childhood bipolar disorder, so there is limited information about the occurrence of this condition. One American study of 1,015 nine- to 13-year-olds found none to have experienced a manic episode and only 0.1% to have experienced hypomania (which has a shorter duration and is less severe than a manic episode).<sup>3</sup> The same rate was found in another study of 1,709 American youth between the ages of 14 and 18. (The rate increased to 1% when milder forms of bipolar disorder were counted, including cyclothymia and bipolar disorder not otherwise specified.)<sup>4</sup> Among children younger than nine, there is no high-quality prevalence data.<sup>5</sup>

Epidemiological studies to date suggest that fewer than 300 children in British Columbia (or 2,100 children in Canada) would meet diagnostic criteria for the most serious form of bipolar disorder.<sup>6</sup> Although more rigorous large-scale epidemiological studies are needed, especially among prepubescent children, it is clear that childhood bipolar disorder is a rare condition, particularly before adolescence.

#### Symptoms of Manic Mood Episodes<sup>1</sup>

- Persistently elevated, expansive or irritable mood
- Decreased need for sleep
- Increased talkativeness / pressured speech
- Excessive involvement in pleasurable activities with high potential for negative consequences
- Inflated self-esteem
- Increased activity levels
- Racing thoughts
- Distractibility

\*Mixed episodes occur when diagnostic criteria are met for both manic and major depressive episodes within the same one-week period.

## What causes bipolar disorder?

Genetics plays a pivotal role in the development of bipolar disorder. Children of parents with bipolar disorder have a five times greater risk for developing the condition,<sup>7</sup> making family history the most significant risk factor.<sup>8</sup> Nonetheless, approximately 95% of children with a bipolar parent will not develop the condition.<sup>7</sup> Bipolar disorder is also associated with structural and functional brain differences.<sup>2</sup> However, little is known about the impact of non-biological factors, such as psychosocial stresses, on the onset and maintenance of childhood bipolar disorder.<sup>9</sup>

## What is the typical course of bipolar disorder?

Bipolar disorder typically begins in late adolescence or early adulthood.<sup>10</sup> Although it affects both sexes equally, most “early onset” diagnoses involve boys.<sup>11</sup> Bipolar disorder usually follows a chronic waxing and waning course,<sup>10</sup> with up to 80% of children and adolescents experiencing recurring episodes despite ongoing treatment.<sup>12</sup> Compared to individuals who develop the disorder in adulthood, those with a younger age of onset often have a more severe illness and poorer long-term outcomes.<sup>13</sup> As well, most adolescents with bipolar disorder meet criteria for additional diagnoses, including attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder, conduct disorder, anxiety disorders and substance abuse.<sup>9</sup> These children and adolescents often face a variety of other challenges, including poor academic performance,<sup>14</sup> difficulties with peers and family,<sup>12</sup> and suicide attempts.<sup>11</sup>

## What can be done to help children with bipolar disorder?

A treatment plan combining medication with psychotherapies and good supports can help children and adolescents with bipolar disorder.<sup>11</sup> For many, medication use will be lifelong.<sup>11</sup> (Our [Review article](#) presents information on the efficacy and side effects of medications typically used to treat bipolar disorder.) Although psychotherapeutic interventions are recognized as an important component of a comprehensive treatment plan,<sup>11</sup> there is limited high-quality research on their effectiveness. Family-focused therapy for adolescents and child- and family-focused cognitive-behavioural therapy do show promising outcomes.<sup>15</sup> Social, academic and occupational supports also have positive results, based on evaluations with adults and preliminary child studies.<sup>11</sup> These studies are part of the rapidly growing research on childhood bipolar disorder.

*The knowledge that accumulates from new research on childhood bipolar disorder helps to improve the lives of children with this condition. For example, when Scott told a trusted teacher his concerns about James, the teacher contacted James’s parents. James’s mother knew not to dismiss his behaviours as typical teenage recklessness after having seen her brother, who was diagnosed with bipolar disorder, act in similar ways. She immediately made an appointment for James to see his family physician, who referred him to a child psychiatrist. James received a comprehensive evaluation, which led to an appropriate diagnosis and treatment. James is now thriving during his first year of university. 🖐️*



■ Most adolescents with bipolar disorder meet criteria for additional diagnoses.

“A treatment plan combining medication with psychotherapies and good supports can help children and adolescents with bipolar disorder.”

## What Do the Numbers Tell Us?

Historically, bipolar disorder was rarely diagnosed in children.<sup>11</sup> Today, however, it is increasingly commonplace for parents to be told their child has this condition. The rising use of this diagnosis has also been documented in systematic evaluations of assessment practices. One study found a fortyfold increase in childhood bipolar diagnoses between 1994 and 2004.<sup>16</sup> This considerable shift is controversial and raises many ethical questions.

### Are children being misdiagnosed?

There are two conflicting explanations for the striking increase in rates of childhood bipolar disorder. One perspective holds that bipolar disorder is now being increasingly recognized by practitioners, leading to a correction of historical underdiagnoses. A contrasting view holds that bipolar disorder is being overdiagnosed as practitioners are inappropriately labelling children who do not have this condition.

Compelling evidence is emerging supporting the second point of view. One recent study found almost half of the diagnoses made by community practitioners were reclassified when stringent research-based assessments were used.<sup>16</sup> Many factors can play a role when children are misdiagnosed with bipolar disorder. Some of the most common reasons for misdiagnoses are described below.

### Desperately seeking a diagnostic gold standard

Universally accepted diagnostic criteria for childhood bipolar disorder do not yet exist. Although the DSM-IV-TR criteria<sup>1</sup> have been used by most research groups,<sup>16</sup> they are frequently criticized for failing to provide separate diagnostic criteria for children and adults. This concern is less relevant for adolescents, who typically present with a “classic” adult-like profile, including acute mood episodes,<sup>5</sup> fewer and less severe co-occurring diagnoses<sup>5</sup> and a strong family history of the disorder.<sup>2</sup> This similar clinical presentation suggests continuity in diagnoses between adolescence and adulthood.<sup>2</sup>

Using the DSM-IV-TR criteria with children who have yet to reach puberty is more controversial. Some have argued the DSM-IV-TR criteria do not capture the “non-classic” presentation of bipolar disorder in children.<sup>10</sup> For example, while mania in adults typically presents as euphoria and expansiveness, these moods are rarely seen in children.<sup>17</sup> Rather, many contend that irritability is the predominant mood for children with bipolar disorder.<sup>18</sup> Children who have been labelled bipolar also often present with rapid and erratic mood swings<sup>5,11</sup> rather than with distinct mood episodes lasting for weeks at a time (as typically seen in adults).<sup>7</sup> It remains controversial as to whether these children who experience significant emotional lability and impulsivity, without meeting DSM-IV-TR criteria, are manifesting bipolar disorder.<sup>10</sup> It is clear that among children who have yet to reach puberty, bipolar disorder is very difficult to define and diagnose.<sup>5</sup>

The diagnostic controversy is even greater among very young children. When preschoolers present with significant mood fluctuations or behavioural problems, such concerns are *not* typically symptoms of mania.<sup>8,19</sup> Overall, the



■ Universally accepted diagnostic criteria for childhood bipolar disorder do not yet exist.

“ Among children who have yet to reach puberty, bipolar disorder is very difficult to define and diagnose. ”

validity of the bipolar diagnosis among preschoolers has not been established.<sup>11</sup>

The lack of universally accepted “gold standard” diagnostic criteria for childhood bipolar disorder presents a major challenge for policy-makers, practitioners and researchers.<sup>11</sup> In an effort to remedy this problem, supplemental diagnostic guidelines have been created in the United States (e.g., those of the National Institute of Mental Health) and the United Kingdom (e.g., those of the National Institute of Health and Clinical Excellence). Unfortunately, significant discrepancies remain between these guidelines.<sup>5</sup> Until there is consensus on this issue, diagnosing childhood bipolar disorder will remain controversial, especially in young children.

### **A symptom of what exactly?**

The accurate diagnosis of bipolar disorder is further complicated by the overlap of symptoms with more common mental disorders and conditions.<sup>16</sup> Some of the most frequently reported symptoms are also present among children with ADHD, including distractibility, pressured speech and irritability.<sup>16</sup> Similarly, the emotional reactivity observed in children with bipolar disorder is also characteristic of disruptive behaviour disorders, posttraumatic stress disorder and pervasive developmental disorders.<sup>11</sup> Other problems such as anxiety can be mistaken for bipolar disorder if a careful evaluation has not been completed.

Symptoms suggestive of bipolar disorder must also be distinguished from medical conditions such as seizure disorder, multiple sclerosis and head injury.<sup>18</sup> They must also be differentiated from typical childhood behaviours, including overactivity, bragging and recklessness,<sup>18</sup> and from reactions to significant stressors, such as sexualized behaviours as a consequence of abuse. Other major stressors that can cause problems with anxiety and depression, such as poor parenting skills, must also be ruled out.

### **Above all, do no harm**

Diagnosing childhood bipolar disorder requires considerable skill.<sup>7</sup> The challenges in accurately assessing this condition in children are beyond the scope of most pediatricians and primary care practitioners.<sup>18</sup> When bipolar disorder is suspected, an assessment must be conducted by qualified practitioners or teams with considerable experience (such as a qualified child and adolescent psychiatrist working with an interdisciplinary children’s mental health clinical team).

A comprehensive evaluation is vital because there are no valid and reliable biological tests for bipolar disorder.<sup>11</sup> Clinical interviews with parents, children and teachers are critical in obtaining developmental, social and family histories. Mood functioning data should be gathered prospectively over several weeks or months rather than retrospectively during a single interview.<sup>7</sup> Information regarding the onset, duration, severity and frequency of symptoms can be obtained from both structured diagnostic interviews and questionnaires. Conducting a developmentally informed, culturally sensitive, biopsychosocial assessment facilitates proper diagnoses and treatment planning<sup>19</sup> and is vital for avoiding harm caused by mislabelling and unnecessary medication.<sup>7</sup> 🖐️

“The challenges in accurately assessing this condition in children are beyond the scope of most pediatricians and primary care practitioners.”



■ Medications are the first-line treatment for bipolar disorder.

# Rx for a Delicate Balancing Act

When a bipolar diagnosis has been conclusively established following a comprehensive evaluation, intervention planning can begin. Medications are the first-line treatment for bipolar disorder.<sup>20</sup> They are used to treat most children with this condition. Nonetheless, high-quality research is very limited on medications prescribed for treating childhood bipolar disorder. This has resulted in many practitioners relying on effectiveness studies with adults<sup>13</sup> or on less well designed (e.g., open label) evaluations with children.<sup>16</sup>

There are significant problems with this approach, because the safety and efficacy of medications can differ between children and adults<sup>21</sup> and because evaluations using weaker methodologies can overestimate treatment effects. To provide the best available evidence on the benefits and risks of medications used to treat childhood bipolar disorder, we sought to identify and summarize the highest-quality research on this topic.

## Our systematic method for selecting research

We used systematic methods adapted from the journal *Evidence-Based Mental Health*.<sup>22</sup> We limited our search to randomized-controlled trials (RCTs) published in peer-reviewed journals. RCTs are not the only form of useful knowledge but are the gold standard in evaluating the effectiveness of medications.

To identify studies, we first applied the following search strategy:

Sources	• The databases Medline, PsycINFO, CINAHL & CENTRAL
Search Terms	• Bipolar and treatment
Limits	• English-language articles published from 2003 to 2008 • Child participants aged 0–18 years

We then hand-searched the practice parameter from the *Journal of the American Academy of Child and Adolescent Psychiatry*<sup>11</sup> to identify studies published before 2003. Next, we applied the following criteria to ensure we included only the highest-quality studies:

- Clear descriptions of child characteristics, settings and interventions
- Majority of children with bipolar diagnosis
- Random assignment of children to medication and placebo groups at outset
- Maximum dropout rates of 20% at post-test, or intention-to-treat analyses
- Measures of child symptoms and/or diagnoses related to bipolar disorder
- At least two symptom measures and/or one diagnostic outcome measure
- Levels of statistical significance reported at post-test for all outcomes/groups

Because no assessed study would have met all of our usual inclusion criteria, two criteria were not employed for this review: post-test follow-up of three months or more; and child outcomes assessed by two or more sources. Two different team members checked the results at each stage to ensure accuracy.

## Finding the few high-quality studies

Of 23 articles retrieved for assessment, five met our criteria. Four studies evaluated primary medications used to treat bipolar disorder, including carbamazepine,<sup>23</sup> lithium,<sup>24</sup> olanzapine<sup>14</sup> and topiramate.<sup>25</sup> One study examined the use of quetiapine as an adjunctive medication to valproate.<sup>26</sup> All studies were conducted in the United States using small samples of children (ranging in number from 25 to 161). Most participants were adolescents, with a near-equal gender balance. The majority of children had a co-occurring diagnosis. In one study, all adolescents had a secondary substance dependency.<sup>24</sup>

“ The safety and efficacy of medications can differ between children and adults. ”

## Medications Assessed in Treating Childhood Bipolar Disorder

Medication	Mean Daily Dose	Study Duration*	Number of Participants	Child Age ** (years)	Child Gender	Co-occurring Diagnoses
		Dropout Rate			Ethnicity	
<b>Primary Medications</b>						
<b>Carbamazepine</b> <sup>23</sup> Anticonvulsant	1,515 mg†	7 weeks	Medication: 59 Placebo: 57	Mean: NR Range: 7–18	66% male	74% ADHD‡
		37%			71% Caucasian 12% Black 17% “Other”	
<b>Lithium</b> <sup>24</sup> Mood stabilizer	1,769 mg	6 weeks	Medication: 13 Placebo: 12	Mean: 16 Range: 12–18	64% male	100% substance dependent 36% dysthymia 32% ADHD 20% anxiety disorder 16% conduct disorder
		16%			NR	
<b>Olanzapine</b> <sup>14</sup> 2nd-generation antipsychotic	9 mg	3 weeks	Medication: 107 Placebo: 54	Mean: 15 Range: 13–17	53% male	36% ADHD 30% opposition defiant disorder
		25%			70% Caucasian	
<b>Topiramate</b> <sup>25</sup> Anticonvulsant	NR (400 mg or max. dose tolerated)	4 weeks	Medication: 29 Placebo: 27	Mean: 14 Range: 6–17	52% male	59% ADHD‡
		20%			NR	
<b>Adjunctive Medications</b>						
<b>Quetiapine</b> <sup>14,26</sup> 2nd-generation	NR (max. 150 mg)	6 weeks	Medication: 15 Placebo: 15	Mean: 14 Range: 12–18	53% male	60% ADHD 47% psychosis
		27%			83% Caucasian	

\* Using RCT methodology.

\*\* Reported age ranges are those eligible to participate in the study.

† For study completers.

NR = Not Reported

‡ Other diagnoses not reported.

Ψ Children in both quetiapine and placebo groups were given valproate as the primary medication.



## How outcomes were assessed

Four studies took their final outcome measures at post-test,<sup>14, 24–26</sup> while the remaining study took theirs when the downward titration of medication began.<sup>23</sup> Most outcome measures were limited to clinician ratings. Adverse events, however, were rated by both clinicians and laboratory examinations. All studies used an intention-to-treat analysis, which helps reduce the impact of participants withdrawing during the study.

## Uncovering some good news

Only two medications — quetiapine (used in combination with valproate) and olanzapine — produced significantly better improvements on mania symptoms than did placebo. Olanzapine also resulted in significant improvements in ADHD symptoms, aggression and global functioning. Carbamazepine, lithium and topiramate did not reduce mania symptoms more effectively than did placebo. The use of lithium did, however, result in reductions in drug use and improvements in global functioning among adolescents with secondary substance dependency.

“Only two medications produced significantly better improvements on mania symptoms than did placebo.”

## Medication Outcomes

Medication	Mania Measures with Significant Improvements*	Other Domains with Significant Improvements*	Other Domains without Significant Improvements*
Carbamazepine <sup>23</sup>	0/1		Depression Global functioning Quality of life
Lithium <sup>24</sup>	0/1	Drug use (random urine samples) Global functioning	Drug use (reported)
Olanzapine <sup>14</sup>	1/1** — .84 effect size	ADHD Aggression Global functioning†	Depression
Quetiapine (used with valproate) <sup>26</sup>	1/1‡ — 87% had ≥ 50% decrease in mania scores vs. 53% in placebo group		Depression Global functioning Psychotic symptoms
Topiramate <sup>25</sup>	0/1		Depression Global functioning — 2 measures Psychiatric symptoms

\* Significant improvements  $p \leq .05$ .

\*\* Olanzapine produced significantly better outcomes on all four analyses using the Young Mania Rating Scale, including total score, 9/11 subscale scores, decreases of  $\geq 50\%$  in total score from baseline to end point, and total scores  $\leq 12$  at end point.

† Significant for total score and severity of mania subscale but not depression subscale.

‡ Quetiapine and valproate produced significantly better outcomes on both analyses using the Young Mania Rating Scale: total score reduction and decreases of  $\geq 50\%$  in total score from baseline to end point.

## There are also adverse reactions

All medications produced at least one side effect at rates significantly greater than placebo. The table on page 10 details only the side effects experienced by significantly more children in the medication group or those experienced

by greater than 30% of children in the quetiapine study (all children in this study received valproate). Many additional less common side effects were also reported, including diarrhea, insomnia, muscle weakness, pain and rashes.

## Medication Side Effects

Category Symptom	Lithium <sup>24</sup> vs. Placebo		Olanzapine <sup>14</sup> vs. Placebo		Carbamazepine <sup>23</sup> vs. Placebo*		Quetiapine + VP <sup>26</sup> vs. Placebo + VP		Topiramate <sup>25</sup> vs. Placebo**	
<b>Cardiovascular</b>										
Blood pressure ↑	–	–	NR†	NR	NR	NR	–	–	–	–
Cholesterol level ↑	–	–	19%†	2%	–	–	–	–	–	–
Fasting glucose ↑	–	–	NR†	NR	–	–	–	–	–	–
Heart rate ↑	–	–	NR†	NR	–	–	–	–	–	–
<b>Endocrine</b>										
Prolactin ↑	–	–	♀ 26%† ♂ 63%†	♀ 0% ♂ 5%	–	–	47%	60%	–	–
<b>Gastrointestinal</b>										
Nausea/vomiting	NR†	NR	–	–	31%	11%	27%	40%	24%†	0%
Stomach upset	–	–	–	–	–	–	47%	33%	7%	15%
<b>General Somatic</b>										
Appetite ↑	–	–	NR†	NR	–	–	–	–	–	–
Appetite ↓	–	–	–	–	–	–	–	–	28%†	0%
Weight ↑	NR	NR	42%†	2%	NR†	NR	NR	NR	–	–
Weight ↓	–	–	–	–	–	–	NR	NR	NR‡	NR
Dry mouth	–	–	–	–	–	–	33%	13%	–	–
Fatigue	–	–	NR†	NR	17%	7%	80%†	33%	–	–
Somnolence	–	–	NR†	NR	20%	4%	–	–	14%	4%
Thirst	NR†	NR	–	–	–	–	–	–	–	–
<b>Liver</b>										
↑ Alanine transaminase levels	–	–	34%†	2%	–	–	–	–	–	–
↑ Aspartate transaminase levels	–	–	22%†	2%	–	–	–	–	–	–
<b>Neurological</b>										
Dizziness	NR†	NR	–	–	39%	11%	33%	20%	–	–
Headache	–	–	–	–	–	–	47%	47%	7%	11%
<b>Renal</b>										
Polydipsia	42%†	8%	–	–	–	–	–	–	–	–
Polyuria	42%†	0%	–	–	–	–	–	–	–	–
Uric acid ↑	–	–	NR†	NR	–	–	–	–	–	–

\* Study did not report if there were significant between group differences for most side effects.

VP Valproate

\*\* Reporting of treatment-emergent adverse events was limited to symptoms occurring in >10% of patients.

– Not assessed in given study.

NR Side effects assessed in the study but the percentage of participants experiencing the symptom was not reported.

† Side effect experienced by significantly more participants in drug condition than in placebo condition.

♀ Female

♂ Male

‡ No children who started the study overweight or at normal weight became underweight.

## Finding the balance: Maximizing benefits, minimizing harm

Children with bipolar disorder need effective interventions so they can function optimally. Our review found that there are effective treatments, including olanzapine and quetiapine used in combination with valproate. However, there are risks to using these medications, including serious side effects such as elevated prolactin levels.

Our review also found that many medications frequently used to treat bipolar disorder in children — including lithium, carbamazepine and topiramate — were no more effective than a placebo in reducing manic symptoms. Some studies of lithium, however, have found “generally positive” outcomes.<sup>11</sup> These studies used methods that did not meet the inclusion criteria for our review. Other commonly used medications — including risperidone and lamotrigine — have no RCT evidence on their effectiveness or risks in treating childhood bipolar disorder.<sup>11</sup>

When a careful evaluation by a qualified practitioner finds that a child has bipolar disorder, there are effective medication options. Without a confirmed diagnosis, medications should not be prescribed. When medications are used, careful monitoring is essential because of the potential for significant adverse events. The need for more rigorous evaluations of medications being used to treat childhood bipolar disorder is also critical. Only by knowing the full extent of potential risks and benefits can we provide children with the best care possible. 🖐️

“Without a confirmed diagnosis, medications should not be prescribed.”

### Doctor’s funding sources queried

As the *Quarterly* was going to press, U.S. congressional investigators raised possible conflict-of-interest questions about Harvard-based child psychiatrist Dr. Joseph Biederman, a well-known researcher in the field of childhood bipolar disorder. Read more in the [New York Times Online](#).

### Is It More Than Child's Play?

#### To the Editors:

As an early childhood mental health practitioner, I am interested in effective therapeutic interventions for young children. In particular, I am keen to know more about the research evidence on play therapy.

Shelly Hassall  
Abbotsford, BC

#### To the Editors:

Given my role as a program consultant, I have been approached by practitioners interested in knowing the latest research evidence on play therapy. In your work, have you found any type of play therapy to be effective? If so, what type of play therapy and for what conditions?

David W. Brown  
Kelowna, BC

### Working on play - what's the evidence?

In our work on the *Quarterly*, we have completed systematic reviews of interventions for enhancing parenting, preventing mental disorders, and treating conduct, mood and anxiety disorders. In the numerous primary studies examined in these reviews, none identified any type of “play therapy” as an effective intervention. We did find research-supported treatments that made use of play. For example, the *Incredible Years* parenting program featured in our Spring 2007 issue (vol. 1, no. 2) teaches parents to use songs, games and other forms of play with their children. We also identified many interventions that were successful with young children, including group social skills training coupled with parent training for reducing symptoms of conduct disorder and parent-led bibliotherapy (a form of cognitive-behavioural therapy) for reducing anxiety disorders.

Although no form of play therapy has emerged as a successful intervention in addressing the particular concerns featured in our reviews, there is nevertheless some support for its use. For example, a 2005 meta-analysis of 93 primary studies (which included numerous types of play therapy) concluded that play therapy was effective.<sup>27</sup>

However, because of the low quality of the studies included in this review, the conclusions must be viewed with significant caution. Specifically, not all of the studies used random assignment. Without each child having the same likelihood of participating in the intervention and the comparison groups, it cannot be determined that findings were actually due to the intervention.

“No form of play therapy has emerged as a successful intervention in addressing the particular concerns featured in our reviews.”

Additionally, the outcome measures used to rate the effectiveness of the play therapies, including “personality” and “self-concept,” are not widely accepted among child intervention studies. Evidence regarding the usefulness of a given intervention is much more compelling when outcome measures are directly related to the area of concern addressed, for example, behavioural or anxiety problems, and when outcome measures have known reliability and validity.

The review authors similarly acknowledged that in several studies “the outcome measure used did not seem suitable to the presenting issue.” Finally, many studies used parents’ reports as the sole outcome measures when the parents also conducted the therapy (as in the case of “filial therapy”). Obvious concerns of bias exist when studies rely solely on treatment providers to rate outcomes.



■ **Playing is integral to establishing and maintaining rapport with children.**

### **Play is useful to practitioners**

Although high-quality research has not found play therapy effective in treating specific mental health problems, play itself is integral to establishing and maintaining rapport with children. When practitioners use and encourage play, they create environments that are warm and inviting to children. By providing toys, books and art supplies, practitioners can help children relax and also observe developmentally typical activities. In any setting working with children, it is fundamental to construct environments that welcome them. Encouraging play is an essential component of this. 🖐️

## References

Government staff can access original articles from BC's [Health and Human Services Library](#).

1. American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (4th ed.). Washington: American Psychiatric Association.
2. Youngstrom, E. A., Birmaher, B., & Findling, R. L. (2008). Pediatric bipolar disorder: Validity, phenomenology, and recommendations for diagnosis. *Bipolar Disorders, 10*, 194–214.
3. Costello, E. J., Angold, A., Burns, B. J., Stangl, D. K., Tweed, D. L., Erkanli, A., et al. (1996). The Great Smoky Mountains Study of Youth: Goals, design, methods, and the prevalence of DSM-III-R disorders. *Archives of General Psychiatry, 53*, 1129–1136.
4. Lewinsohn, P. M., Klein, D. N., & Seeley, J. R. (1995). Bipolar disorders in a community sample of older adolescents: Prevalence, phenomenology, comorbidity, and course. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*, 454–463.
5. Cahill, C., Hanstock, T., Jairam, R., Hazell, P., Walter, G., & Malhi, G. S. (2007). Comparison of diagnostic guidelines for juvenile bipolar disorder. *Australian and New Zealand Journal of Psychiatry, 41*, 479–484.
6. Waddell, C., Shepherd, C. A., & Barker, J. (2007). Developing a research-policy partnership to improve children's mental health in British Columbia. In J. A. LeClair & L. T. Foster (Eds.), *Contemporary issues in mental health: Concepts, policy, and practice* (Vol. 41, pp. 183–198). Victoria, BC: Western Geographical Press.
7. Youngstrom, E. A., Findling, R. L., Youngstrom, J. K., & Calabrese, J. R. (2005). Toward an evidence-based assessment of pediatric bipolar disorder. *Journal of Clinical Child and Adolescent Psychology, 34*, 433–448.
8. Duffy, A. (2007). Does bipolar disorder exist in children? A selected review. *Canadian Journal of Psychiatry, 52*, 409–417.
9. Pavuluri, M. N., Birmaher, B., & Naylor, M. W. (2005). Pediatric bipolar disorder: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 846–871.
10. Lewinsohn, P. M., Klein, D. N., & Seeley, J. R. (2000). Bipolar disorder during adolescence and young adulthood in a community sample. *Bipolar Disorders, 2*, 281–293.
11. McClellan, J., Kowatch, R., & Findling, R. L. (2007). Practice parameter for the assessment and treatment of children and adolescents with bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 107–125.
12. Birmaher, B., & Axelson, D. (2006). Course and outcome of bipolar spectrum disorder in children and adolescents: A review of the existing literature. *Development and Psychopathology, 18*, 1023–1035.
13. Delbello, M. P., Kowatch, R. A., Adler, C. M., Stanford, K. E., Welge, J. A., Barzman, D. H., et al. (2006). A double-blind randomized pilot study comparing quetiapine and divalproex for adolescent mania. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*, 305–313.
14. Tohen, M., Kryzhanovskaya, L., Carlson, G., Delbello, M., Wozniak, J., Kowatch, R., et al. (2007). Olanzapine versus placebo in the treatment of adolescents with bipolar mania. *American Journal of Psychiatry, 164*, 1547–1556.
15. Pavuluri, M. N., Graczyk, P. A., Henry, D. B., Carbray, J. A., Heidenreich, J., & Miklowitz, D. J. (2004). Child- and family-focused cognitive-behavioral therapy for pediatric bipolar disorder: Development and preliminary results. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 528–537.

16. Moreno, C., Laje, G., Blanco, C., Jiang, H., Schmidt, A. B., & Olfson, M. (2007). National trends in the outpatient diagnosis and treatment of bipolar disorder in youth. *Archives of General Psychiatry*, *64*, 1032–1039.
17. Wozniak, J., Biederman, J., Kiely, K., Ablon, J. S., Faraone, S. V., Mundy, E., et al. (1995). Mania-like symptoms suggestive of childhood-onset bipolar disorder in clinically referred children. *Journal of the American Academy of Child and Adolescent Psychiatry*, *34*, 867–876.
18. Weckerly, J. (2002). Pediatric bipolar mood disorder. *Journal of Developmental and Behavioral Pediatrics*, *23*, 42–56.
19. McClure, E. B., Kubiszyn, T., & Kaslow, N. J. (2002). Advances in the diagnosis and treatment of childhood disorders. *Professional Psychology: Research and Practice*, *33*, 125–134.
20. Hamrin, V., & Pachler, M. (2007). Pediatric bipolar disorder: Evidence-based psychopharmacological treatments. *Journal of Child and Adolescent Psychiatric Nursing*, *20*, 40–58.
21. Findling, R. L., McNamara, N. K., Youngstrom, E. A., Stansbrey, R., Gracious, B. L., Reed, M. D., et al. (2005). Double-blind 18-month trial of lithium versus divalproex maintenance treatment in pediatric bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*, 409–417.
22. Evidence-Based Mental Health. (2006). Purpose and procedure. *Evidence-Based Mental Health*, *9*, 30–31.
23. Wagner, K. D., Kowatch, R. A., Emslie, G. J., Findling, R. L., Wilens, T. E., McCague, K., et al. (2006). A double-blind, randomized, placebo-controlled trial of oxcarbazepine in the treatment of bipolar disorder in children and adolescents. *American Journal of Psychiatry*, *163*, 1179–1186.
24. Geller, B., Cooper, T. B., Sun, K., Zimmerman, B., Frazier, J., Williams, M., et al. (1998). Double-blind and placebo-controlled study of lithium for adolescent bipolar disorders with secondary substance dependency. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 171–178.
25. Delbello, M. P., Findling, R. L., Kushner, S., Wang, D., Olson, W. H., Capece, J. A., et al. (2005). A pilot controlled trial of topiramate for mania in children and adolescents with bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*, 539–547.
26. Delbello, M. P., Schwiers, M. L., Rosenberg, H. L., & Strakowski, S. M. (2002). A double-blind, randomized, placebo-controlled study of quetiapine as adjunctive treatment for adolescent mania. *Journal of the American Academy of Child and Adolescent Psychiatry*, *41*, 1216–1223.
27. Bratton, S. C., Ray, D., Rhine, T., & Jones, L. (2005). The efficacy of play therapy with children: A meta-analytic review of treatment outcomes. *Professional Psychology: Research and Practice*, *36*, 376–390.

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