

ADHD and Bipolar Spectrum Conditions: A Developmental Perspective

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Moral defect

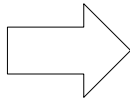
*Minimal brain
dysfunction*

Hyperkinesia

"Bad" ADHD

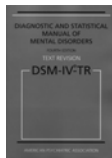
ADHD + ODD

ADHD + CD



ADHD + BPD
(plus accompanying
comorbidities)

Sources of Controversy Regarding Childhood Mania



Childhood-onset BPD



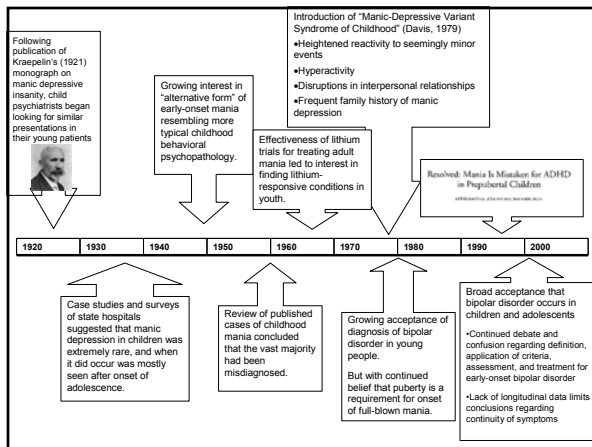
Adult BPD

Agenda

- History
- Definition
- Prevalence
- Differential Diagnosis
- Assessment
- Longitudinal Course

Agenda

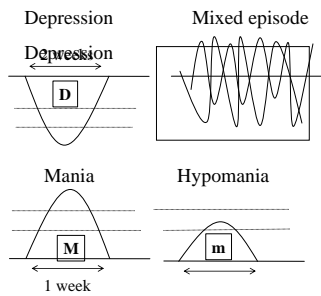
History



Agenda

• Definition

Mood States



G. Carlson, 2009

Mania/Hypomania Symptoms (DSM-IV-TR)

• **A distinct period of abnormally and persistently elevated, expansive, or irritable mood**

- Grandiosity
- Decreased need for sleep
- Pressured speech - talking more than usual
- Racing thoughts/flight of ideas
- Distractibility
- Increased goal directedness
- Excessive involvement in pleasurable activities that have a high potential for painful consequences
 - engaging in unrestrained buying sprees
 - sexual indiscretions
 - foolish business investments
- Psychotic symptoms (not necessary)

Depressive Symptoms (DSM-IV-TR)

- **Depressed mood most of the day, nearly every day**
 - Reduced interest in usual activities
 - Weight change
 - Appetite change
 - Change in sleep patterns
 - Moving slowly
 - Restlessness
 - Loss of energy
 - Decreased self-esteem
 - Guilt
 - Decreased concentration
 - Thoughts of death

Tony: Classic Adult Mania

- **28 years old**
- **Age 18, first episode of depression as a high school senior**
- **In college, had a manic episode associated with polysubstance abuse**
- **Referred to an inpatient treatment study after experiencing another episode of psychotic mania not associated with drug use.**

Carlson & Meyer, 2006; Carlson & Goodwin, 1973

Tony: Mental Status

- **Initially described as loud, anxious, speaking rapidly, flitting from one topic to another, frequently changing clothes. As mania accelerated, became angry and irritable, easily overstimulated.**
- **Elated mood seen in his comedic behavior.**
- **Often grandiose: "I think I'm something great and it scares me!" Periodically thought he was Jesus. Wanted to grow a "Christ-like beard because I feel so faultless".**
- **Hypersexuality manifested in several ways: Perseverated on his sexual identity. When agitated would say, "All these women are driving me out of my mind!"**
- **Talked incessantly, and said, "I have thoughts faster than I can think."**
- **Became increasingly psychotic over course of a week. "I see myself as a prophet." Had visual hallucinations of being home, and became scared when he realized he was hallucinating. Worried about phones being bugged. Afraid a dental X-ray would destroy his brain. Thought God was talking to him through a light bulb in the nurses' station.**
- **At his most symptomatic, was confused, hallucinating, talking incoherently, screaming, throwing food, hyperactive to the point of exhaustion.**
- **As the episode began to subside, remained silly and bizarre, angry and agitated, distracted, up all night, with some hallucinations and grandiose delusions.**
- **21 days after episode began, it subsided without any medications.**

Carlson & Meyer, 2006; Carlson & Goodwin, 1973

Tony: Notable Features

- **Clear episodic course**
- **Acute symptoms of**
 - Elation
 - Psychotic grandiosity
 - Emotional lability
 - Anxiety
 - Irritability
- **Observable racing thoughts**
- **Symptoms were unquestionably a marked deviation from his usual self.**

Carlson & Meyer, 2006; Carlson & Goodwin, 1973

Children Diagnosed with Mania Don't Usually Look Like Tony

- Symptoms of mood dysregulation are chronic rather than episodic
- Explosive irritability, rather than euphoria, tends to be the predominant and most impairing mood state.
- Behaviors associated with adult mania are rare in children
 - Overspending
 - Becoming suddenly promiscuous
- Criteria have been modified to fit more common behavioral presentations seen in children
- Unclear whether altered criteria have retained the same meaning as corresponding symptoms in adults

Comparison of Pediatric Bipolar Disorder Criteria Across Sites

- **Massachusetts General Hospital (Biederman et al, 1990)**
 - Chronic, severe irritability, dysphoria, agitation
 - Temper outbursts
 - Low rates of euphoria and grandiosity
- **Washington University, St. Louis (Geller & Tillman, 2005)**
 - At least 2 out of 3 modified cardinal symptoms of mania
 - elation, irritability, and/or grandiosity
 - Duration of 2 weeks
 - CGAS score ≤ 60 , indicating significant impairment
- **National Institute of Mental Health (Liebenluft et al, 2003)**
 - Strict DSM-IV criteria for mania or hypomania
 - Including duration

Difficulties in applying DSM-IV-TR criteria to children and adolescents (cont)

- **Episodes**
 - The pattern of mood dysregulation in children is chronic, with brief mood swings occurring throughout the day.
 - Brevity of mood cycles makes it difficult to assess whether symptoms are appearing in concert
 - Can be challenging to identify a child's "usual self"
- **Elation**
 - Pathological levels are rare in children, particularly during evaluation
 - Reporters often over-endorse
 - Silliness stemming from anxiety may be misinterpreted as elation
 - Identifying true elation requires capacity for abstract thought
- **Grandiosity**
 - Kids <7yo may not be able to reliably distinguish pretend from reality
 - Statements of superiority may stem from poor social awareness, oppositionality, inflated self regard, environmental factors
 - Not specific to bpd (also seen in LD, maltreatment, PDD, ADHD)

Rages ≠ mania

- Reporters often describe rages as mood swings, and clinicians frequently accept this as evidence of a manic episode
 - Rages are not specific to mania, and are also seen in children with
 - Anxiety
 - Depression
 - History of maltreatment
 - PDD
 - ODD
 - Speech and language delays
 - Elevated stress

Linda: Possible case of early-onset bipolar disorder (Dubicka, Carlson and Harrington, EJCAP, 2007)

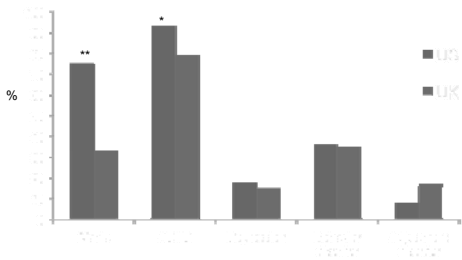
- Age 11, 5th grade
- Had been hyperactive and impulsive since preschool
- In 4th grade, behavior worsened; peer relationships suffered; increased irritability and aggression so bad that parents would not let her stay with younger sister without one of them present; rages when thwarted.
- Started expressing interest in pornographic magazines, undressed in front of boys.
- Told parents not to worry about her grades; she knew she could get into medical school when she grew up.
- Family History: One parent severe cyclothymia, other chronically depressed; chronic family stress

Linda: Mental Status

- Tried to be seductive; provocative; argumentative.
- Admitted trouble paying attention, following directions, remembering things, and sitting still; Said she talks so fast that others have trouble keeping up with her though this was not evident during interview.
- Described temper problems/irritability; denied euphoria; endorsed feeling sad, and even suicidal during periods of anger
- Thought she could go to law school if brings up her grades.
- Heard dead grandma's voice saying it was OK to smoke.

G. Carlson, 2009

Agreement between psychiatrists in the US and UK regarding Linda's diagnosis



Dubicka, Carlson and Harrington, EJCAP, 2007

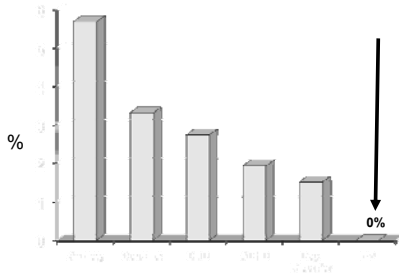
Agenda

• Prevalence:

Factors Impacting the Estimated Prevalence of Bipolar Disorder in Youth

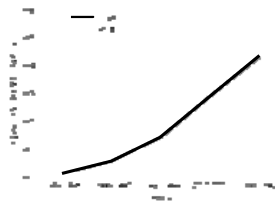
- Definition
- Measurement instruments
- Clinic specialty
- Ascertainment source
 - Parent
 - Teacher
 - Child self report

Great Smoky Mountains Study of Youth Prevalence rates



Costello et al. 1996, N=1,015 youth; 9, 11, 13 years
 Brotman et al. 2006, Biological Psychiatry N=1,420 youth; 9, 11, 13 years
 G. Carlson, 2009

Percentage of Total Outpatient Visits Due to Diagnosis of Bipolar Disorder (ages 0-19 years)



Moreno et al, 2008

ADHD and Mania: Overlapping symptoms

Carlson & Meyer, ADHD with Mood Disorders, In Brown TE, ADHD Comorbidities: Handbook for ADHD Complications in Children and Adults, 2009

Clinical Profiles that May Be Confused with Mania

- ADHD
- ODD, CD
- Normal temperamental variability in childhood
- Maltreatment
- Anxiety
- Psychosis or prodromal state
- Pervasive developmental disorders
- Learning disorders, communication disorders
- Substance or medication-induced mood changes; Mood changes due to a medical illness
- Normal response to pathogenic environmental factors

Impact of Development on Differential Diagnosis

- Affective and behavioral symptoms may worsen with the emergence of new developmental demands and changing circumstances
- Children with attention or learning challenges may look increasingly dysregulated with new demands of late elementary or middle school
- Irritability may intensify with increasing environmental challenges (ie difficulties with family and peer relationships)
- The question becomes whether worsening behaviors are indicative of a manic episode or a complex response to increasing developmental challenges

Agenda

1. Assessment

Elements of a Diagnostic Assessment

- **Screening measures (caregivers and teachers)**
 - Bipolar-specific questionnaires
 - General screening instruments (CBCL; CSI)
 - Useful for detecting conditions that are often confused with mania
- **Interviews (caregivers, child, teacher phone conversation)**
 - Interview caregivers first
 - Most reliable information
 - Material can be presented during child interview to address any discrepant responses
- **Review of other diagnostic information**
 - Home and/or school observation
 - Multidisciplinary assessment reports
 - Neuropsychological
 - Occupational therapy
 - Psychoeducation
 - Speech and language
 - Medical records

Caregiver(s) Interview

- **Overview of current and longitudinal course of symptoms**
 - 1. Onset
 - 2. Worsening
- **Developmental history**
 - 1. Birth and infant feeding
 - 2. Birth complications
 - 3. Attachment style
 - 4. Child development milestones
 - 5. School history
 - 6. Early friendships etc
 - 7. Family structure and stability
 - 8. Relationships with siblings, other children
- **Family history**
 - 1. Current and past mental health problems
 - 2. Screen for bipolar disorder (eg. mania, hypomania, depression) and other conditions (eg. ADHD, anxiety, depression)
 - 2. Alcohol and drug use
 - 3. Suicide history (eg. 1 and 2)

Child Interview

- Critical for eliciting information regarding possible environmental factors contributing to mood variability
- **May reveal features of other conditions that need to be addressed**
 - Attention Deficit Hyperactivity Disorder
 - Learning Disabilities
 - Anxiety
 - Depression
 - Bipolar Disorder
 - Conduct Disorder
 - Oppositional Defiant Disorder
 - Tourette/Tic Disorder

Teacher Phone Conversation

- Necessary for determining whether manic-like symptoms are occurring across settings
- May reveal subtle social and/or learning challenges contributing to a child's increased frustration and/or mood dysregulation



The Explosive Child

A New Approach for Understanding and Managing Emotionally Intense Children
Ross W. Greene, Ph.D.

Treating Explosive Kids
THE COLLABORATIVE PROBLEM-SOLVING APPROACH
ROSS W. GREENE, J. STUART ABLON

lost at school
Why Our Kids with Behavioral Challenges are Falling Through the Cracks and How We Can Help Them
Ross W. Greene, Ph.D.

Lagging Skills that May Contribute to Deficits in Frustration Tolerance, Flexibility and Problem Solving
(Greene & Ablon, 2005)

- Executive Functioning
- Language Processing Skills
- Emotion Regulation Skills
- Cognitive Flexibility Skills
- Social Skills

Things to Keep in Mind During Diagnostic Assessment

- Families with children who are exhibiting high levels of emotional dysregulation, aggression, and attentional difficulties are often in a state of crisis. And are frequently doing the best that they can under highly stressful, confusing, and potentially overwhelming circumstances
- Developing collaborative assessment and care is essential for trying to better understand what's going on and what will be the most effective approach to treatment
- Our interview questions can often be confusing and/or misleading
- Clinical judgment is essential for determining whether respondents are misinterpreting questions and/or under- or over-reporting symptoms.
 - Always probe beyond affirmative responses to elicit examples of specific behaviors, as well as the contexts in which behaviors are occurring!
- Evaluators must have working knowledge of normative and atypical development to determine whether reported behaviors are within expected limits given the child's current stage of development

What are the Potential Risks of Hastily Diagnosing Bipolar Disorder in a Child?

- Caregivers may feel they have a solution prematurely
- Clinicians may fail to look for other conditions or circumstances that need to be identified and addressed
- Everyone may assume that there will be a connection to bipolar disorder in adulthood
- Or that medications for bipolar disorder in adults will clean things up nicely

Agenda

- Longitudinal Course

Long-term outcomes of youth who manifested the CBCL-Pediatric Bipolar Disorder (CBCL-PBD) phenotype during childhood and/or adolescence

(Meyer, Carlson et al, 2009)

- CBCL-PBD commonly seen among children diagnosed with bipolar disorder
- Has been proposed as a bipolar screening tool
- 3 elevated CBCL subscale scores
 - Anxious/Depressed
 - Attention Problems
 - Aggressive Behavior

Longterm Outcomes of Youth Who Manifested the CBCL-PBD Phenotype

(Meyer, Carlson, et al, 2009)

Longitudinal Follow-up Studies (cont)

- Hazell et al (1999)
 - Only 1 boy (7%) who originally met criteria for mania and ADHD continued to manifest manic symptomatology in adolescence and young adulthood
- Johnson et al (2000)
 - Manic symptoms in adolescence were predictive of GAD, OCD, and chronic depression in young adulthood, not bipolar disorder
- Geller et al (2004; 2009) and Biederman et al (2004)
 - Atypical, highly comorbid presentation appears to be stable
 - No evidence that it will evolve into classic manic depression

Summary of Longitudinal Findings

- Manic symptoms may look very different over time.
- There is a group of severely ill children who meet modified criteria for bipolar disorder. This presentation has a chronic and disabling course.
- Although some of these children may ultimately merit a diagnosis of “classic” bipolar illness, others may be on a pathway to anxiety disorder, chronic depression, continued attentional difficulties, and/or personality pathology.

General Conclusions

- **“Classic” bipolar disorder with clear episodes of depression and euphoria and relatively good interepisode functioning is extremely rare in prepubertal youth.**
- **There is a group of emotionally and behaviorally dysregulated children in need of better understanding and treatment, but it is not yet clear whether these children merit a diagnosis of bipolar disorder.**
- **There may be a variety of psychosocial, developmental, neurocognitive, psychiatric, biological, and/or historical factors contributing to a clinical presentation characterized by aggression, attention problems, and emotional dysregulation in children.**

General Conclusions (cont)

- When considering a diagnosis of bipolar disorder in youth, it is important to go beyond standardized adult criteria to gain in-depth understanding of a child's developmental history and longitudinal course of symptoms and the current and historical contexts in which behaviors are being expressed.
- One can maximize chances of successful clinical outcomes by utilizing empirically supported assessment tools, employing sound clinical judgment, and developing collaborative relationships with parents and children in attempting to understand children's behavior and to determine the most effective course of treatment.
- It is important to work within a multidisciplinary team involving, among others, relevant school personnel, psychiatrists, case managers, individual therapists, family therapists, neuropsychologists, occupational therapists, and speech and language specialists.
