Bipolar Disorder in Children

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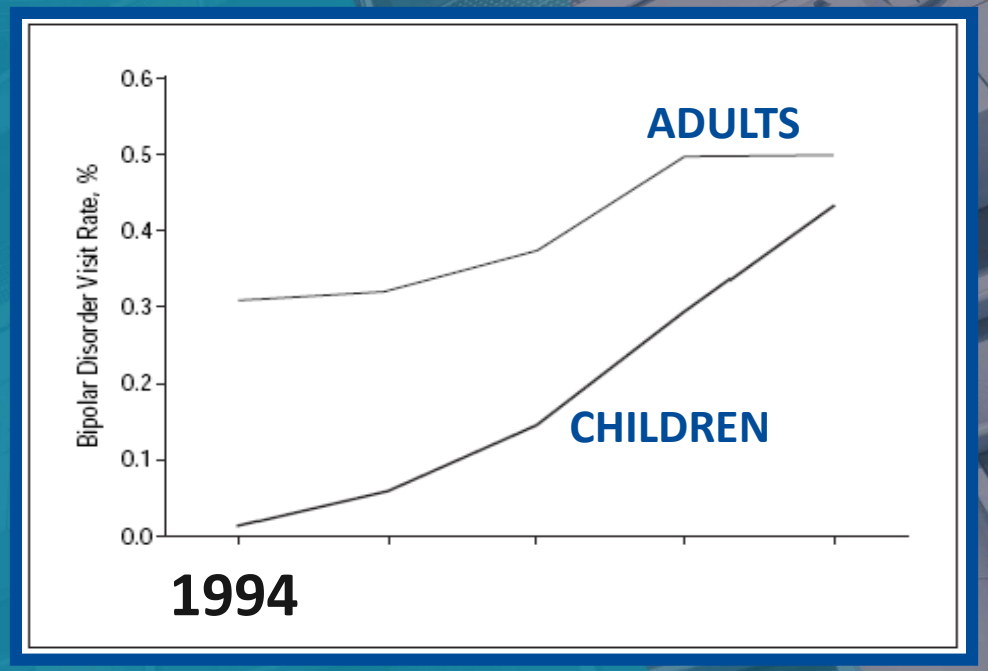
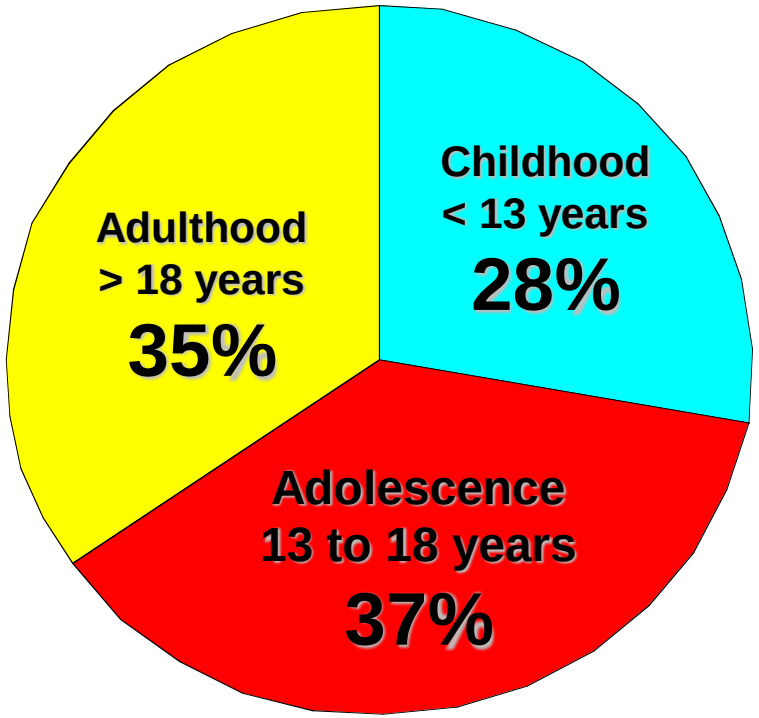


MASSACHUSETTS GENERAL HOSPITAL

Pediatric Bipolar disorder is a highly impairing, biologically based, treatable condition *that affects a significant minority of young children and adolescents.*

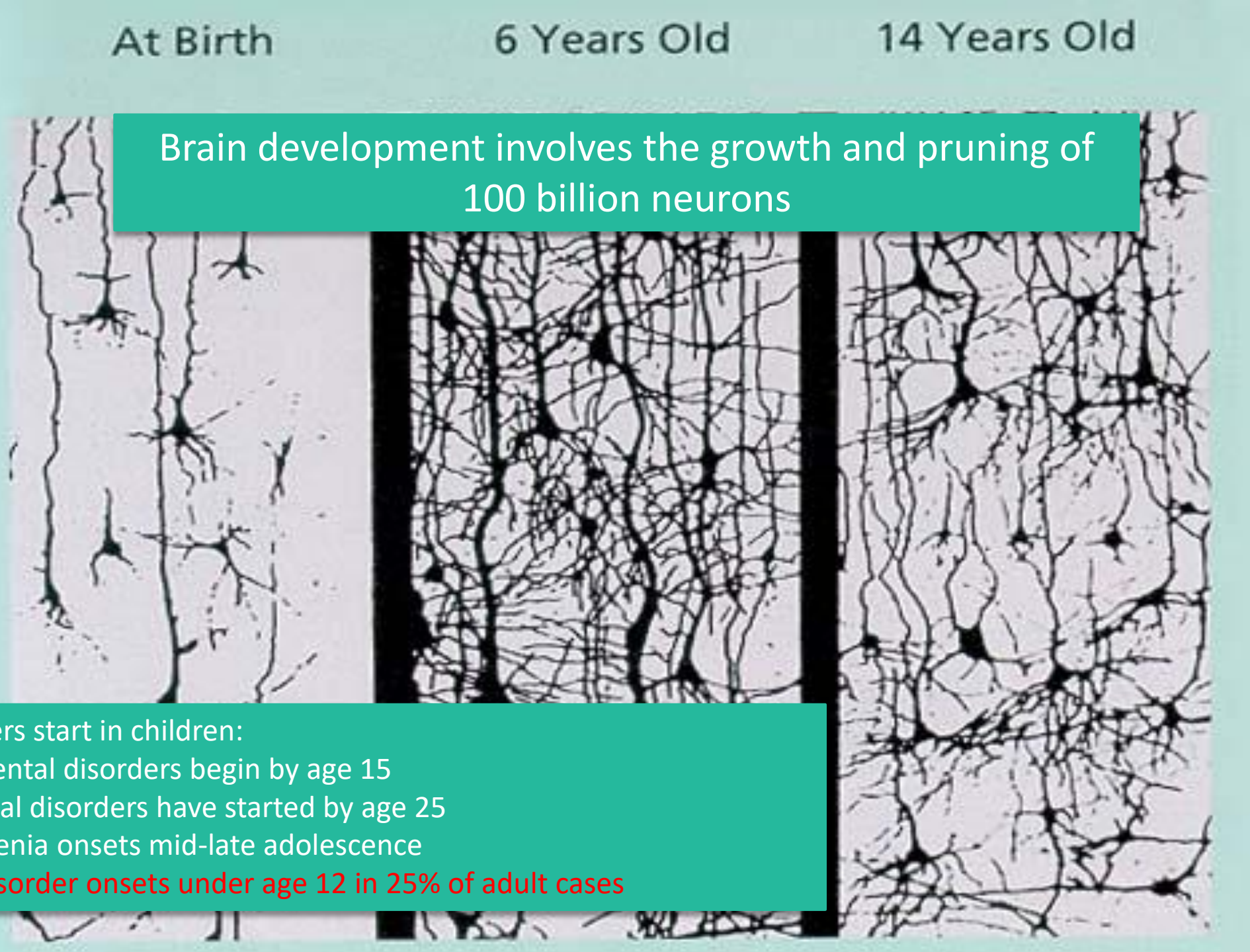
Adult Psychiatric Disorders Often Start in Childhood

Most bipolar adults report pediatric onset



65% of adults with bipolar disorder had their illness begin in childhood or adolescence

Perlis, 2004 BiolPsych



Brain development involves the growth and pruning of 100 billion neurons

Adult disorders start in children:

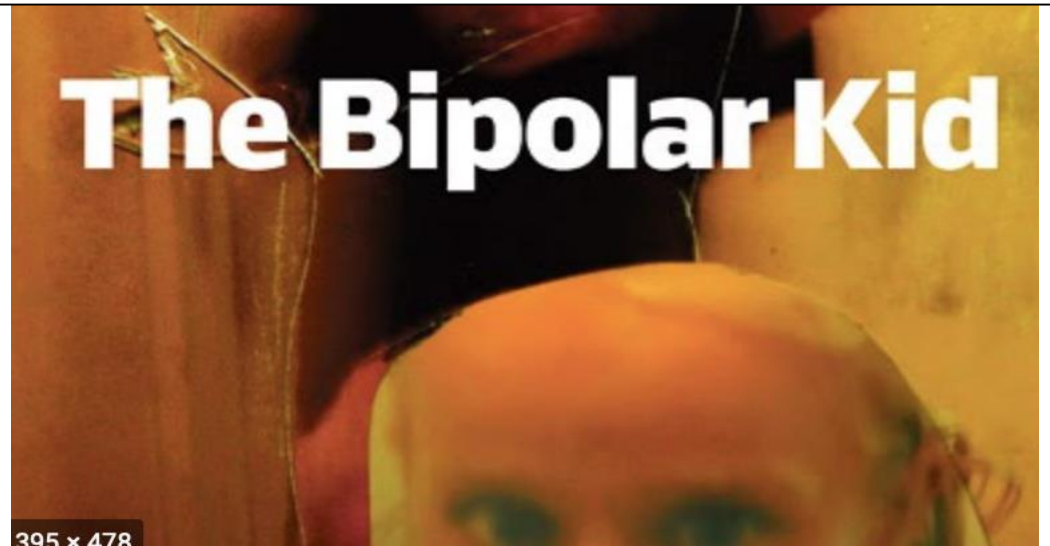
- 50% of mental disorders begin by age 15
- 75% mental disorders have started by age 25
- Schizophrenia onsets mid-late adolescence
- Bipolar Disorder onsets under age 12 in 25% of adult cases

Like many children whose emotional problems are being diagnosed as bipolar disorder, his main symptoms are aggression and explosive rage (known in clinical parlance as "irritability"), and those traits have been visible in James from the time he was a toddler. *Fifteen years ago his condition would probably not have been called bipolar disorder*

Age 4-5 years: Life at home was devolving into a nightmare.

"James used to wake up every morning violently angry…. he would take one sip from the cup, [and if took hot or too cold he would] hurl it across the room and rage so loudly that it would wake" the household.

2008



We have seen a dramatic rise in pediatric bipolar disorder research over the past 20 years

The Internat'l Society for Bipolar Disorders Task Force report on pediatric bipolar disorder: Knowledge to date and directions for future research

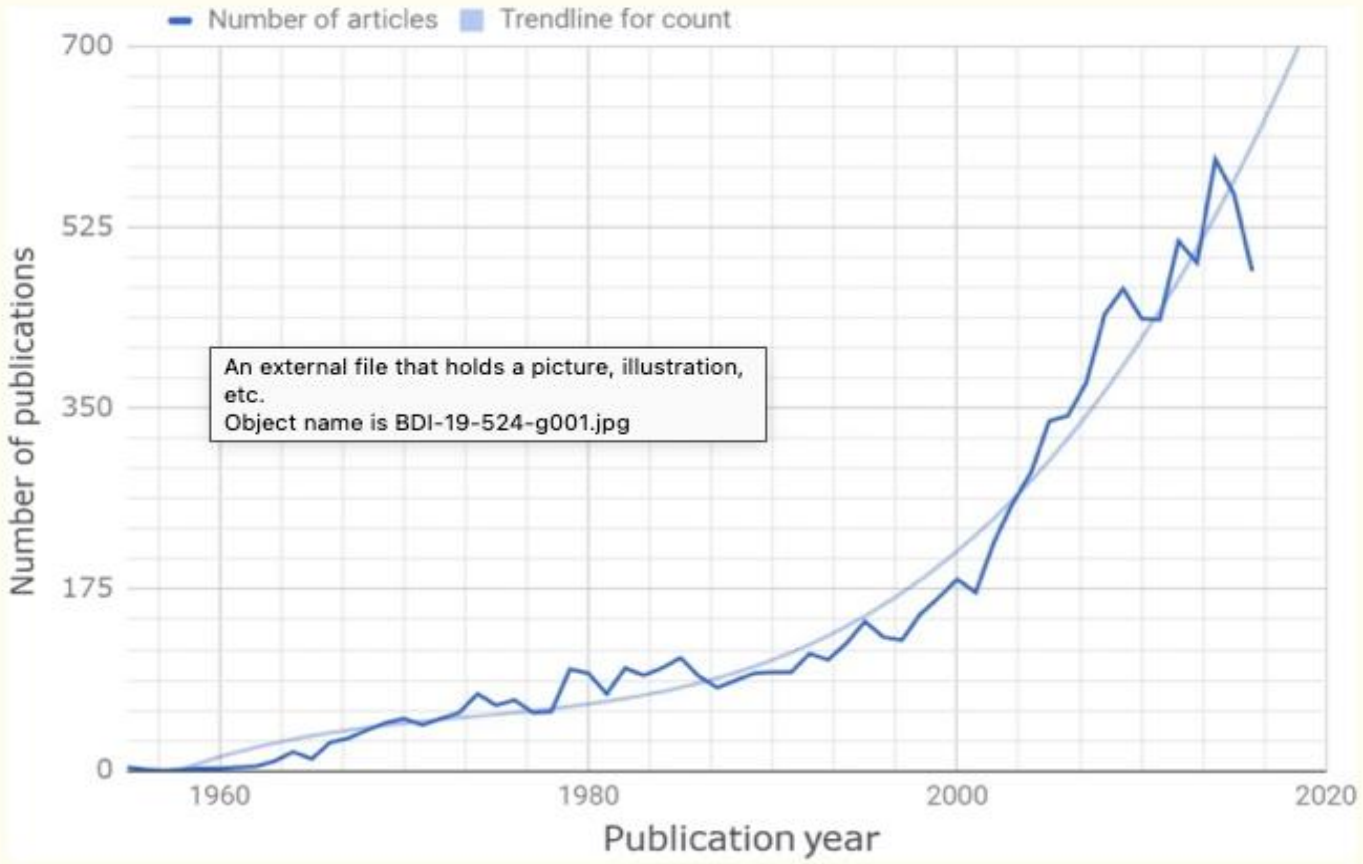


Figure 1

Articles about pediatric bipolar disorder indexed in PubMed each year. Search terms were ("bipolar disorder" or mania or manic) and (child or adole* or pediatric or juvenile)

Goldstein Bipolar Disorders 2017

What we learned about children with mania:

IRRITABLE

- The major mood disorder chief complaint of the parents was severe irritability (rather than euphoria)

MIXED

- The children had mostly mixed states (mania and depression overlapped in time)

CHRONIC

- The children were seldom well due to mixed states, many cycles and comorbidity (chronicity)

Wozniak, 1995; Biederman, 2004

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ADHD

- **Almost all of them had ADHD**

(especially when the onset of mania was prior to age 12)

Wozniak, 1995; Biederman, 2004

Bipolar disorder requires severe mood symptoms

A. A *distinct period* of abnormally and persistently elevated, expansive or irritable mood and persistently increased goal-directed activity or energy

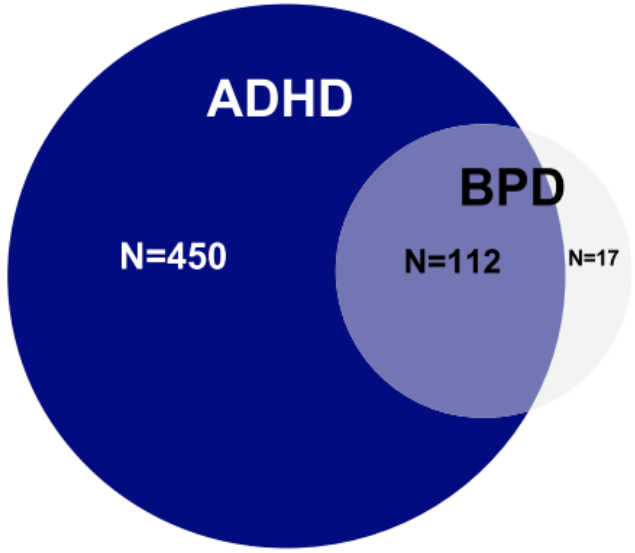
B. At least 3/7 (4/7 if mood is irritable)

ADHD symptoms

1) D Distractibility
2) I Increased activity/psychomotor agitation
3) G Grandiosity or inflated self-esteem
4) F Flight of ideas or racing thoughts
5) A Activities with painful consequences
6) S Sleep decreased
7) T Talkative or pressured speech

Most children with bipolar disorder also have comorbid ADHD

	Bipolar	ADHD
Depression	86%	38%
Psychosis	**16%**	0
Defiance	88%	48%
Conduct Disorder	**37%**	15%
Anxiety	56%	26%
Hospitalization	21%	2%
Functioning	Very poor	fair
Learning Disability	42%	14%



Bipolar disorder + ADHD is a different and more impairing condition from ADHD alone

Wozniak, 1995; Biederman, 2004

In study of 10,000+ US adolescents, 2.9% were bipolar
In a meta-analysis of international studies, 1.8% were bipolar

Lifetime Prevalence of Mental Disorders in U.S. Adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A)

Kathleen Ries Merikangas, Ph.D., Jian-ping He, M.Sc., Marcy Burstein, Ph.D., Sonja A. Swanson, Sc.M., Shelli Avenevoli, Ph.D., Lihong Cui, M.Sc., Corina Benjet, Ph.D., Katholiki Georgiades, Ph.D., Joel Swendsen, Ph.D.

Objective: To present estimates of the lifetime prevalence of *DSM-IV* mental disorders with and without severe impairment, their comorbidity across broad classes of disorder, and their sociodemographic correlates. Method: The National Comorbidity Survey–Adolescent Supplement NCS-A is a nationally representative face-to-face survey of 10,123 adolescents aged 13 to 18 years in the continental United States. *DSM-IV* mental disorders were assessed using a modified version of the fully structured World Health Organization Composite International Diagnostic Interview. Results: Anxiety disorders were the most common condition (31.9%), followed by behavior disorders (19.1%), mood disorders (14.3%), and substance use disorders (11.4%), with approximately 40% of participants with one class of disorder also meeting

cents, mental disorders, National Comorbidity Survey, correlates

Pediatric bipolar disorder affects a significant minority of youth, but ADHD and depression are more common

Pediatric ADHD 8.7%

Pediatric Depression 11.7%

THE JOURNAL OF CLINICAL PSYCHIATRY

Results: The overall rate of bipolar disorder was 1.8% (95% CI, 1.1%–3.0%). There was no significant difference in the mean rates between US and non-US studies, but the US studies had a wider range of rates. The highest estimates came from studies that used broad definitions and included bipolar disorder not otherwise specified. Year of enrollment was negatively correlated with prevalence ($r = -0.04$) and remained nonsignificant when controlling for study methodological differences.

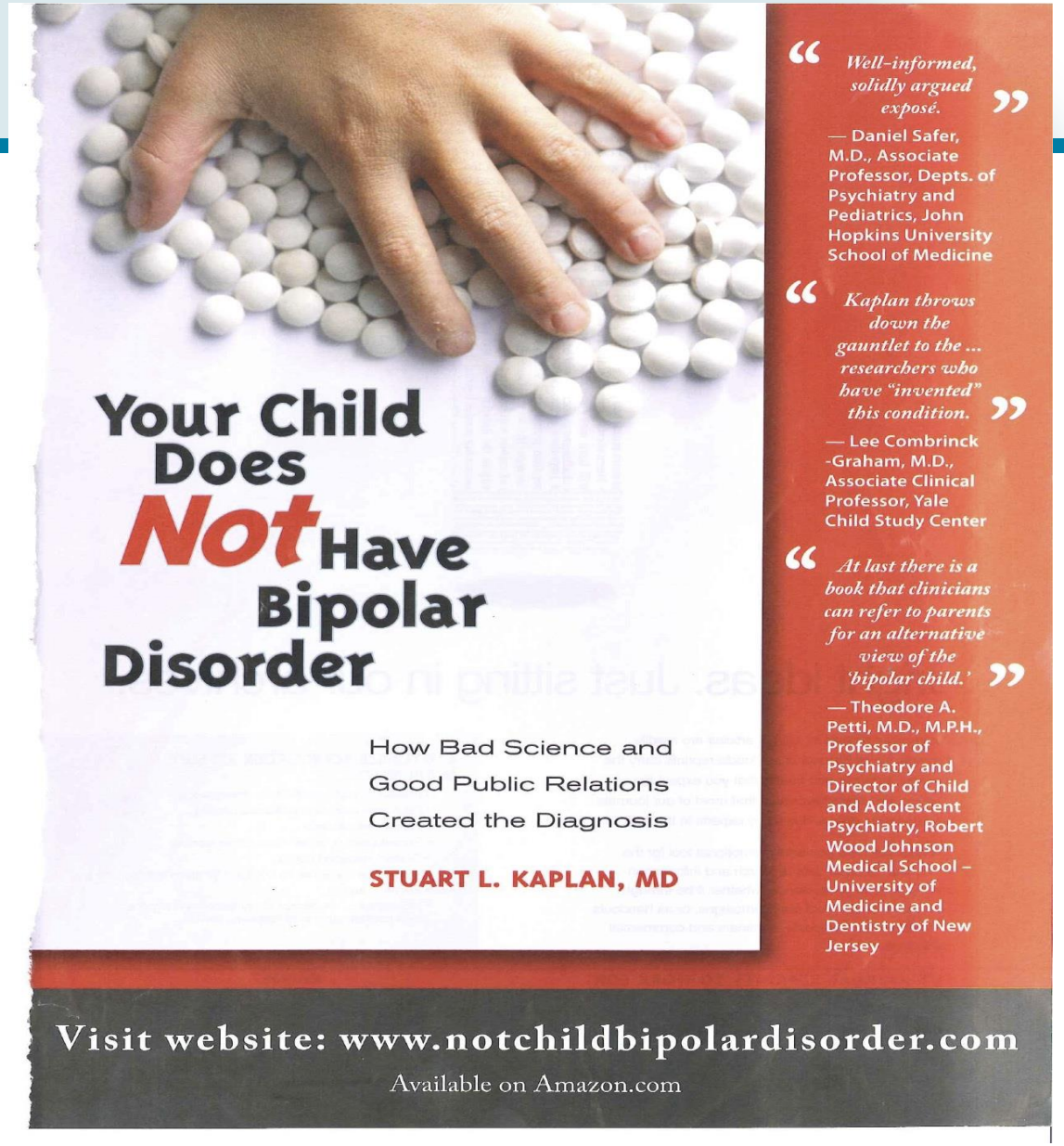
Conclusions: Mean rates of bipolar disorder were higher than commonly acknowledged and not significantly different in US compared to non-US samples, nor was there evidence of an increase in rates of bipolar disorder in the community over time. Differences in diagnostic criteria were a main driver of different rates across studies.

J Clin Psychiatry 2011;72(9):1250–1256

Merikangas 2010: Van Meter J Clin Psych 2011

Despite increase in scholarly work, backlash and disbelieve are still common

2011

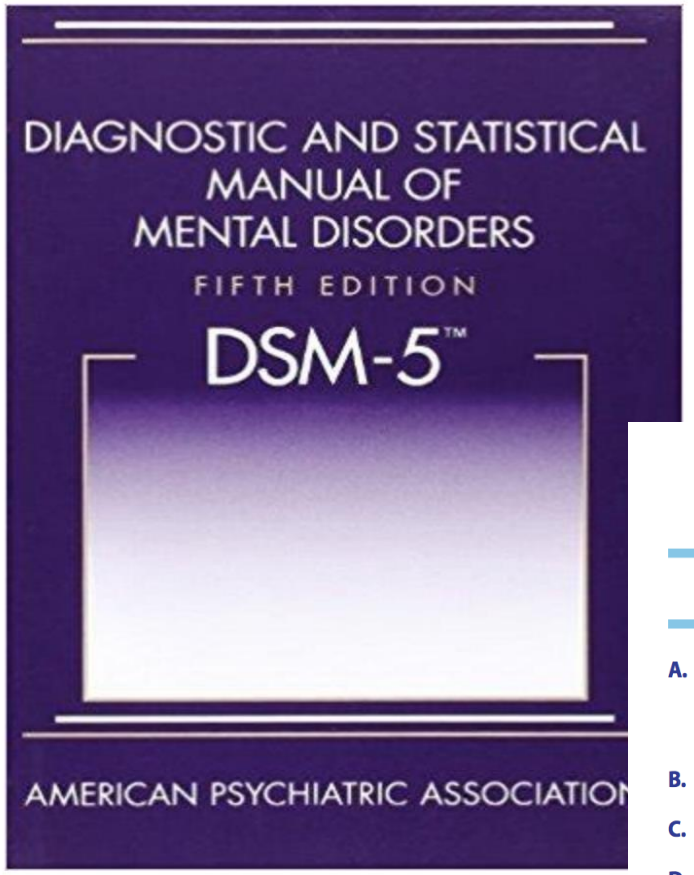


A new disorder was created called *Disruptive Mood Dysregulation Disorder*

Child WorkGroup Mission: REDUCE THE NUMBER OF BIPOLAR DIAGNOSES IN CHILDREN

Adult WorkGroup Mission: ENSURE BIPOLAR DISORDER IS NOT MISDIAGNOSED AS DEPRESSION

2013

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Focus on Childhood and Adolescent Mental Health

Examining the Proposed Disruptive Mood Dysregulation Disorder Diagnosis in Children in the Longitudinal Assessment of Manic Symptoms Study

DSM-5™ Diagnostic Criteria

Disruptive Mood Dysregulation Disorder	296.99	(F34.8)

A. Severe recurrent temper outbursts manifested verbally (e.g., verbal rages) and/or behaviorally (e.g., physical aggression toward people or property) that are grossly out of proportion in intensity or duration to the situation or provocation.

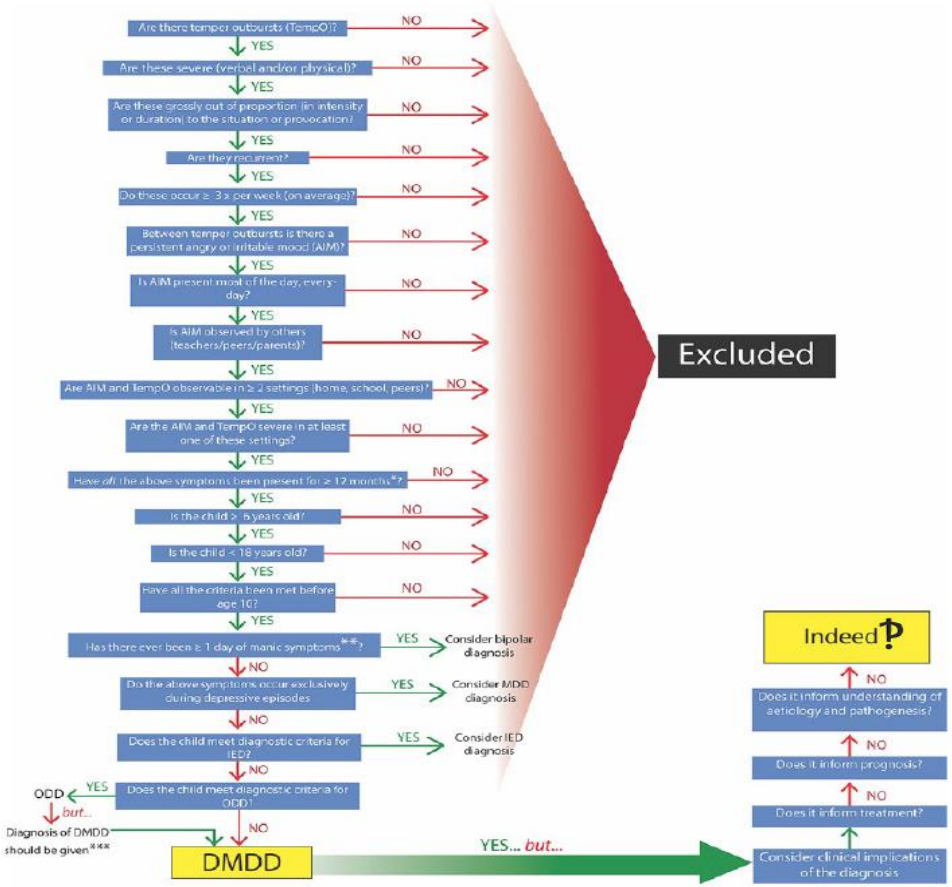
B. The temper outbursts are inconsistent with developmental level.

C. The temper outbursts occur, on average, three or more times per week.

D. The mood between temper outbursts in persistently irritable or angry most of the day, nearly every day, and is observable by others (e.g., parents, teachers, peers).

Step-wise diagnosis of DMDD: A convoluted process that does not inform management

Figure 2. Step-wise diagnosis of DMDD. The decision tree shows the questions that need to be considered in order to arrive at a diagnosis of DMDD as per DSM-5 criteria. It illustrates the complexity of the process and highlights the futility of the experience given that the diagnosis does not inform prognosis or treatment and does not provide any meaningful understanding of the individual's behaviour and distress.



This convoluted process – many aspects of which are clearly unrealistic – would at least be theoretically acceptable were it not for the fact that successfully *making a diagnosis of DMDD does not inform management*

The clinical decision must be made:
is the mood dysregulation
a form of depression or
a form of bipolar disorder?

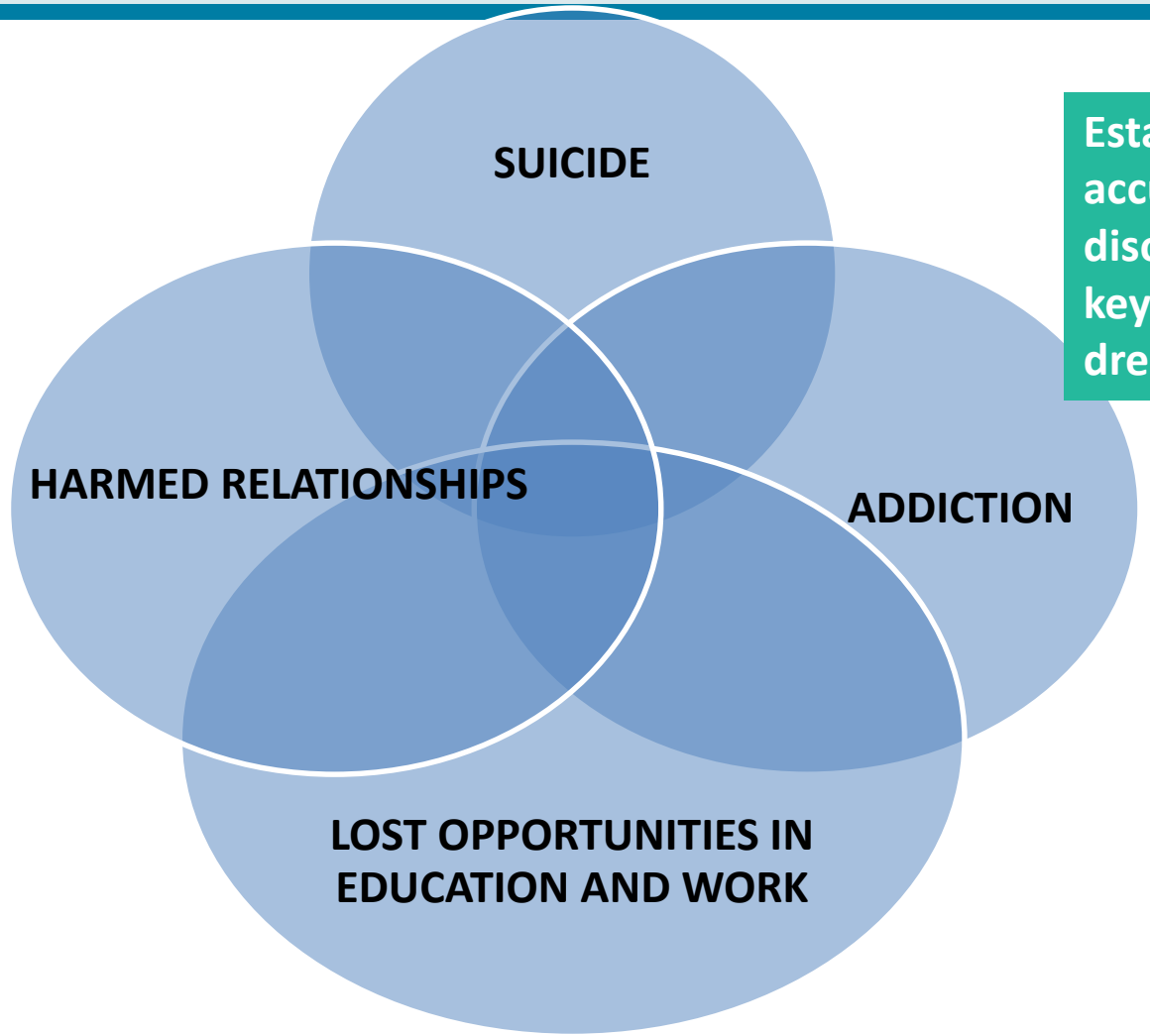
Malhi, Australian & New Zealand Journal of Psychiatry 2019

Antidepressants can worsen depression or cause switching from depression to bipolar disorder

- pharmacologically induced hypomania was a predictor of a bipolar course
- antidepressant induced mood change was seen more in BP MDD
- rate of switching higher in subjects with history of receiving antidepressants especially in children

Strober; Shon; Martin

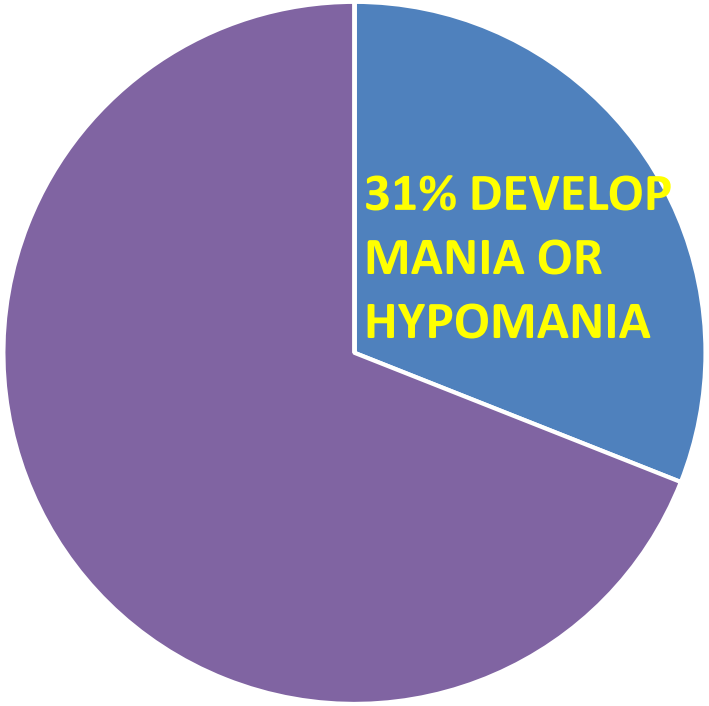
The risk-benefit analysis of treatment must include the risks associated with not treating a mood disorder.



Establishing an accurate mood disorder diagnosis is key to prevent dreaded outcomes.

Children with MDD often switch

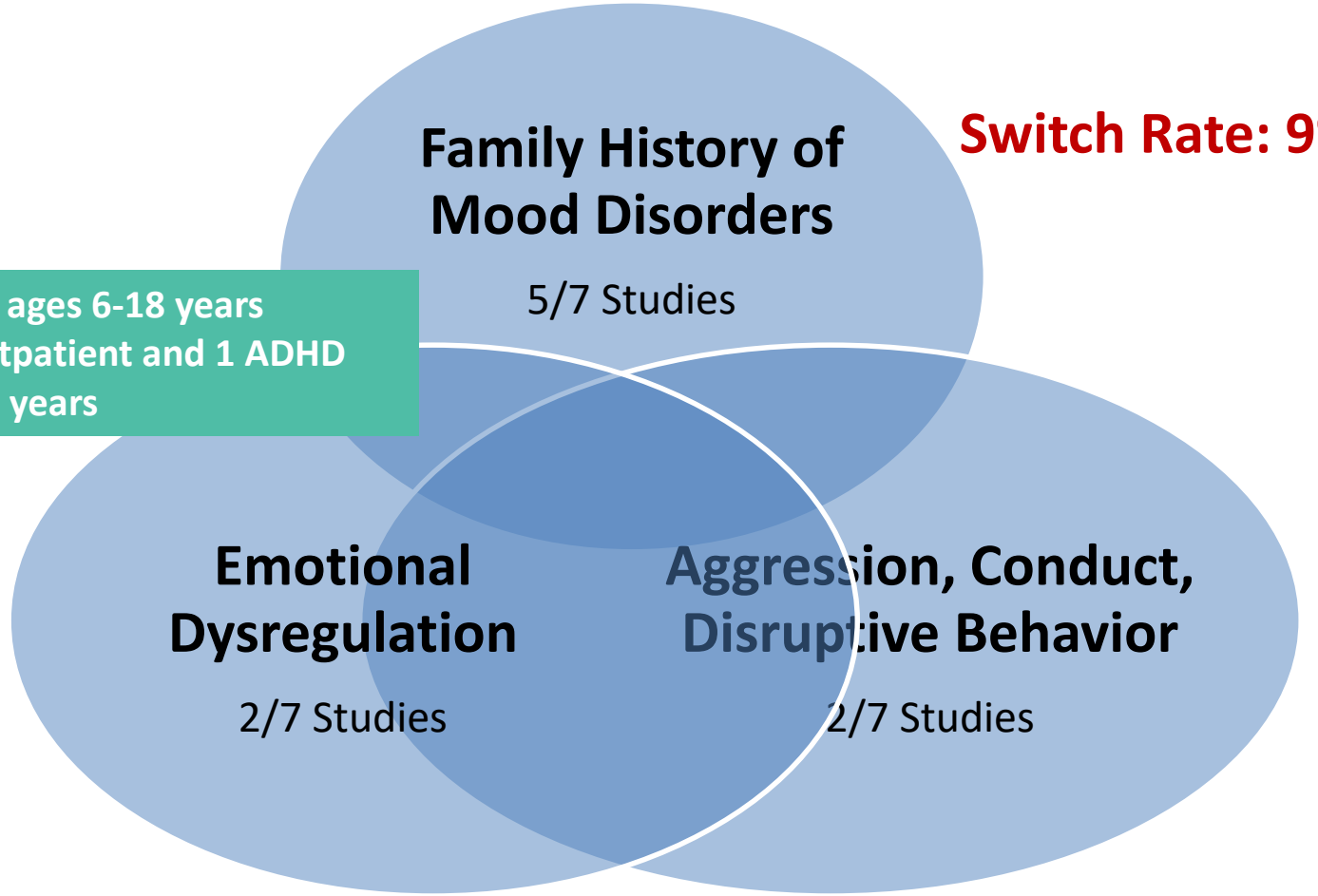
CHILDREN WITH MDD



Adult literature has consistently reported that “early onset” (< 25 years) depression poses a risk of switching

Weissman 1999; Geller 1994

Top features of pediatric depression found which predict subsequent switch to bipolar disorder from 7 prospective studies (4 samples)

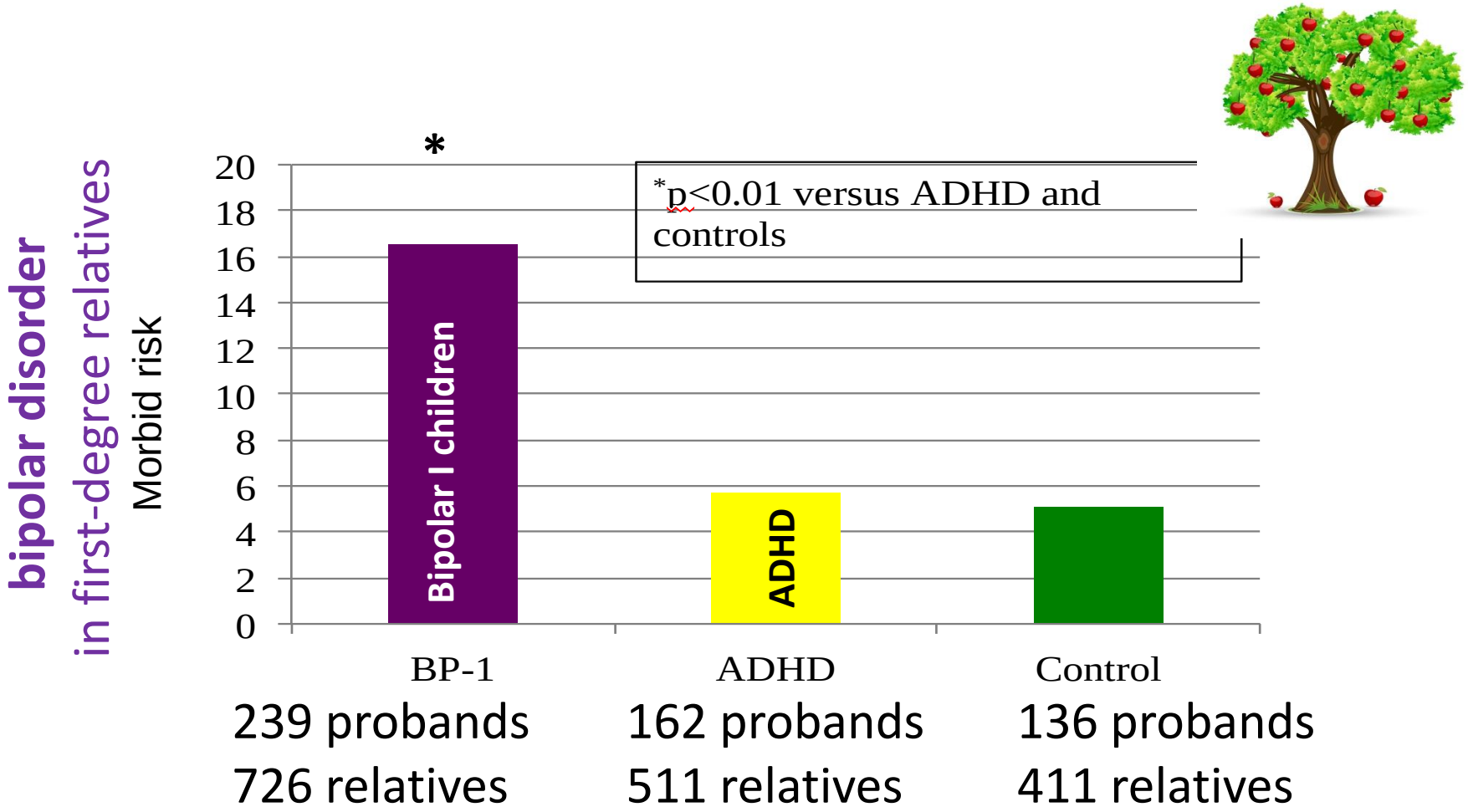


Switch Rate: 9% - 43%

N= 985 subjects, ages 6-18 years
2 inpatient, 1 outpatient and 1 ADHD
Follow up: 1 - 11 years

Strober 1982,1993; Geller 1994,2001; Kochman 2005; Biederman 2009, 2013

Pediatric bipolar disorder is familial, a feature of a valid diagnosis

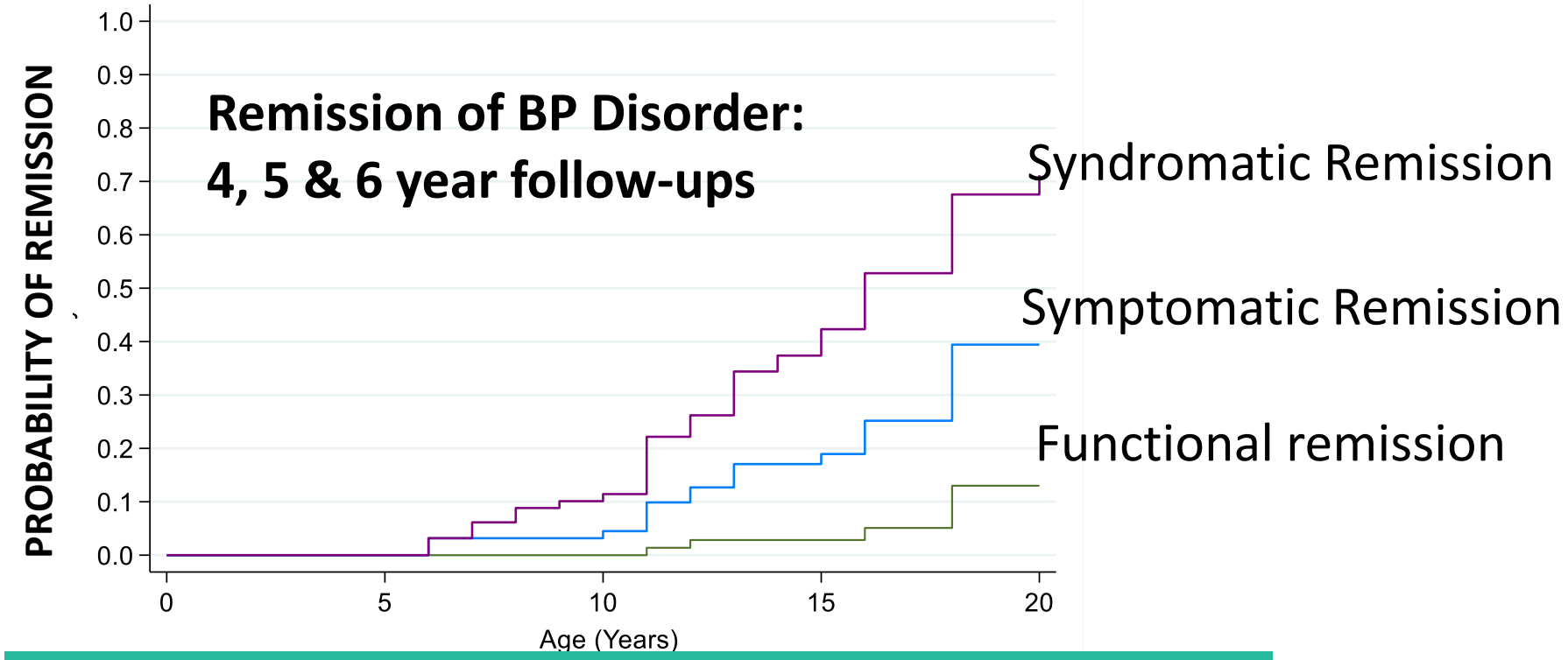


Wozniak J Clin Psych 2012

Functional Remission
(no symptoms, good functioning) *is less likely than*

Symptomatic Remission
(no symptoms, functioning impaired) which *is less likely than*

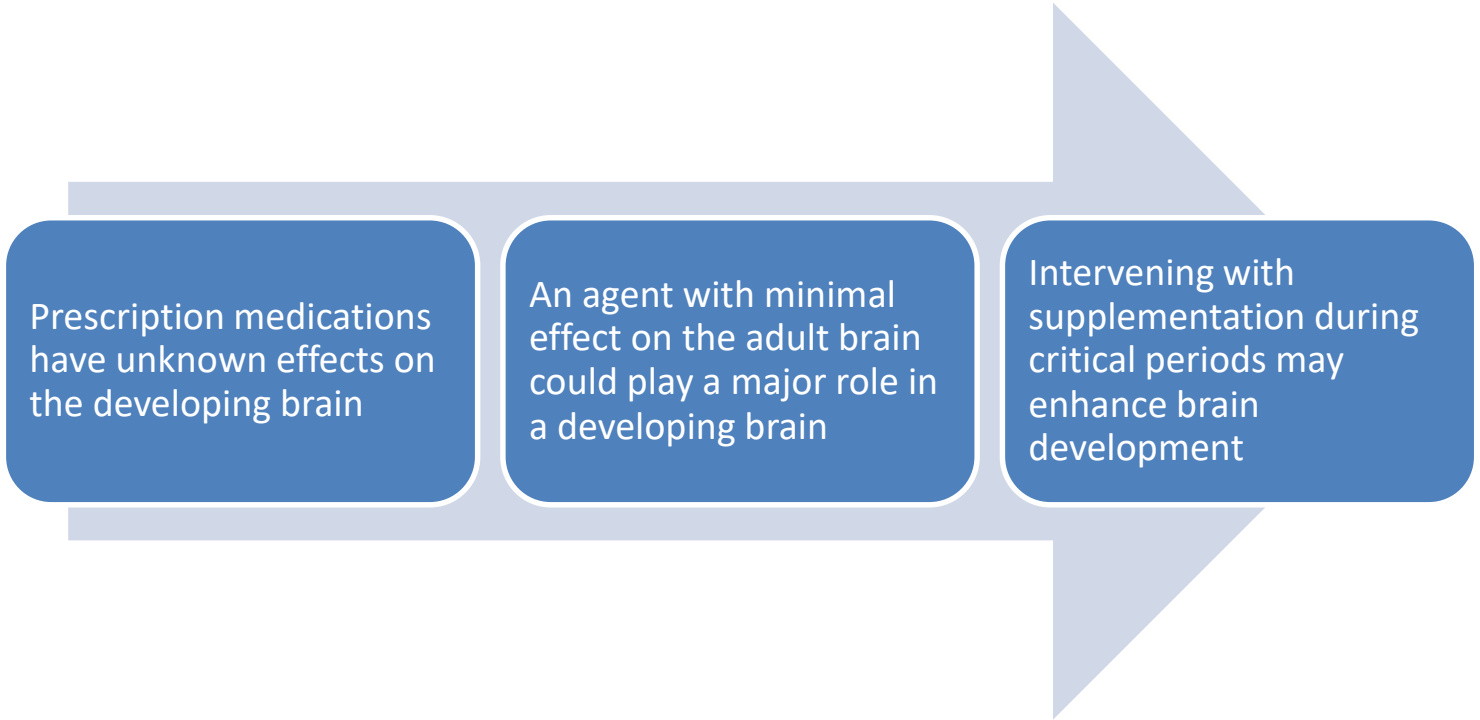
Syndromatic Remission
(symptoms persist, functioning impaired)



Pediatric Bipolar Disorder persists over time:
Symptoms and poor functioning found at follow-up

Wozniak 2020

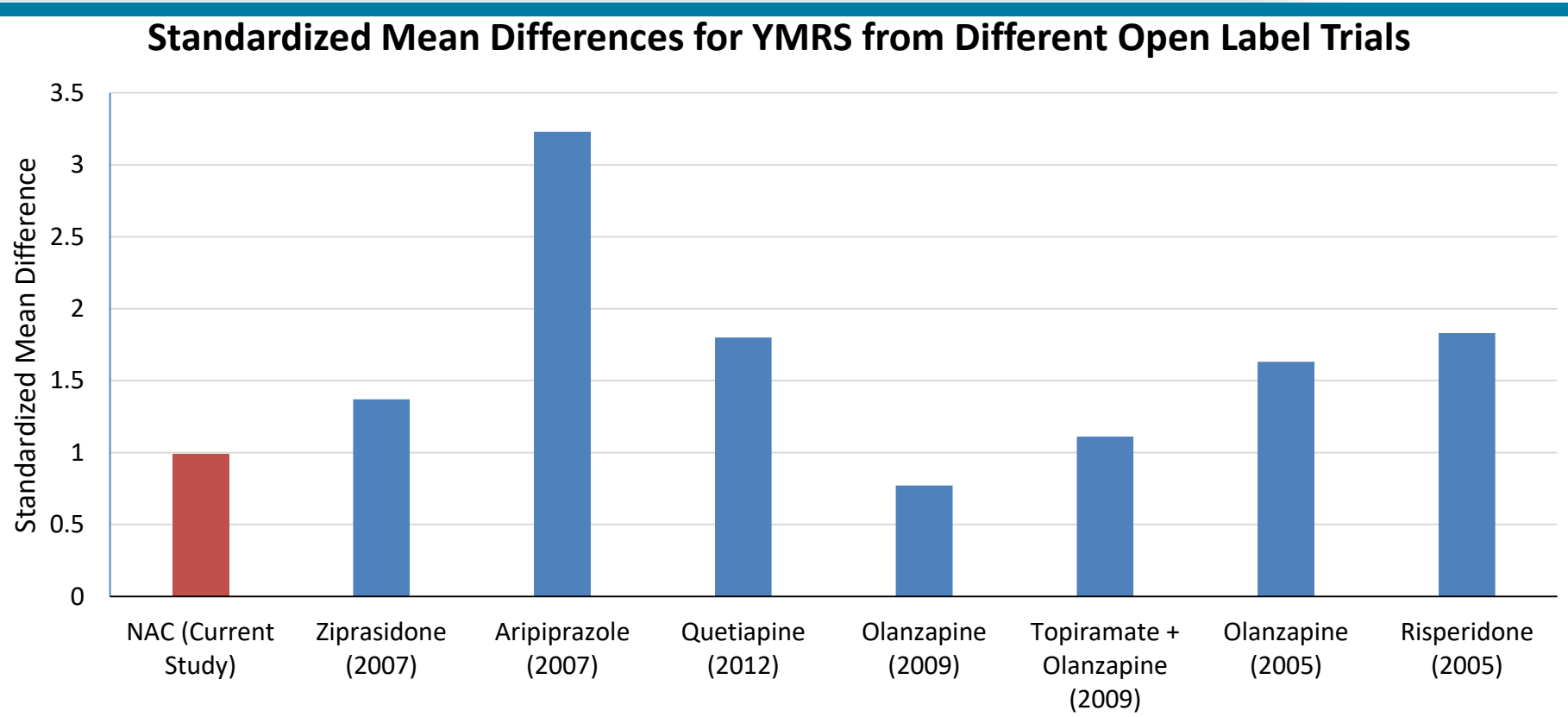
Natural treatments are an appealing option for the treatment of bipolar disorder in children. Having natural options can encourage early diagnosis and 'natural' treatments are safe for even the youngest children.



Treatment for bipolar disorder involves antipsychotic medications and other mood stabilizers with significant side effects, fueling reluctance to diagnose.

Supported by a generous philanthropic donation from Lisa and Philip Astley-Sparke Boston, Massachusetts)

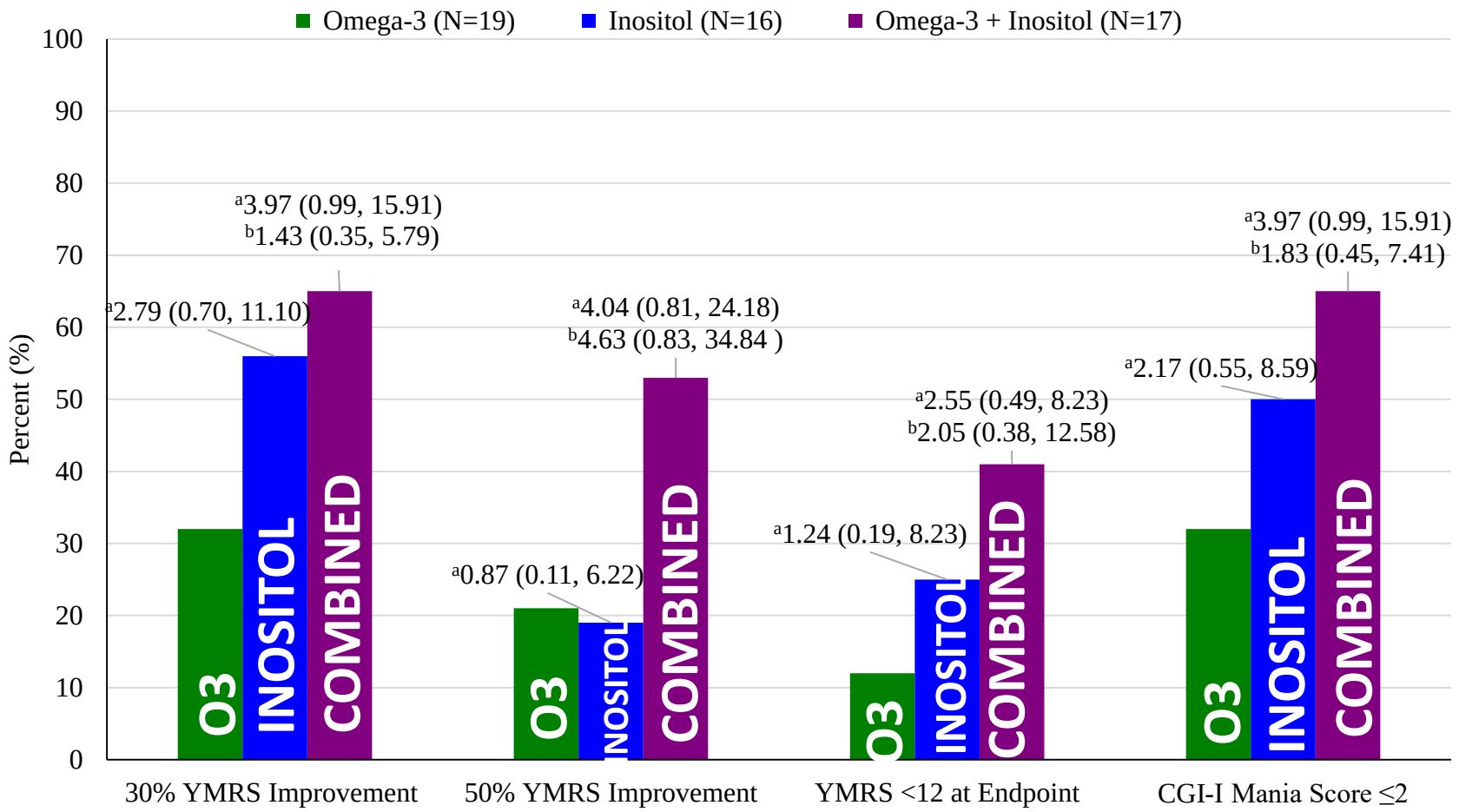
NAC has an effect size lower than, but in the ballpark of, the effect size of SGAs for mania



SMD is a summary statistic reflecting effect size, a method to to compare therapies across different studies in the absence of head-to-head trials

Supported by a generous philanthropic donation from Kent and Elizabeth Dauten Chicago, IL

Omega-3 + Inositol combined outperforms either used alone for mania (N=52)



Treatment for bipolar disorder involves medications with significant side effects, fueling reluctance to diagnose

What questions do you have?

Pediatric Bipolar disorder is a highly impairing, biologically based, treatable condition that affects a significant minority of young children and adolescents.