ADHD vs. Bipolar Disorder

Clinical Case Discussion

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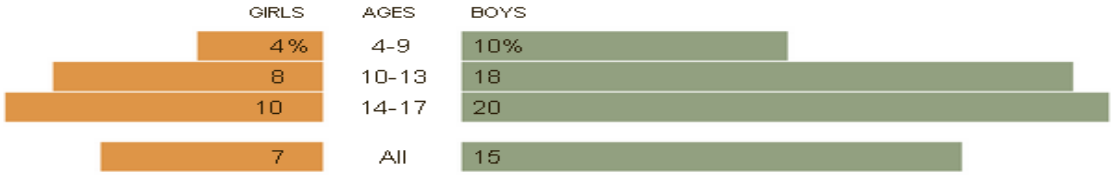
Is ADHD overdiagnosed?

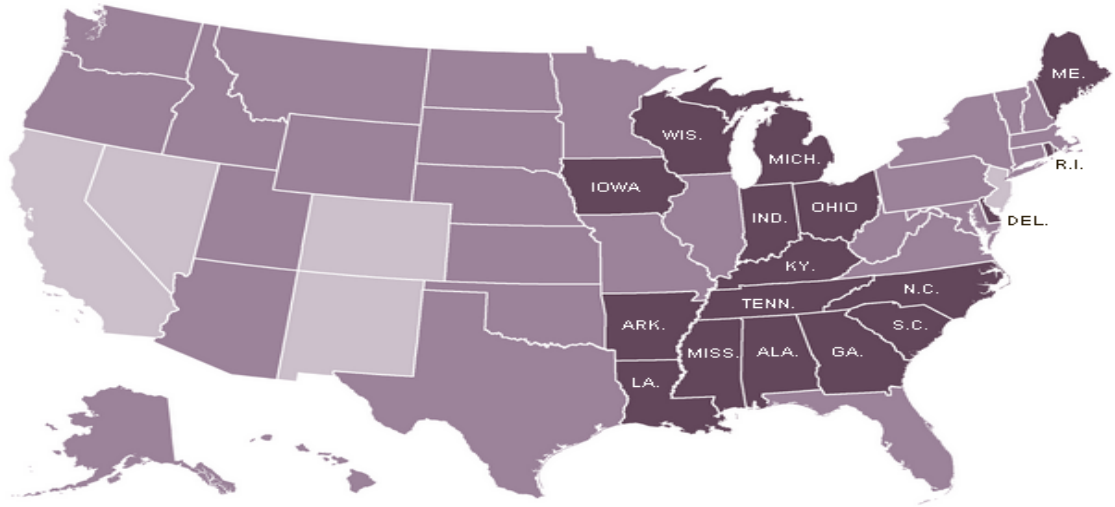
Rates of A.D.H.D. Diagnosis in Children

Nearly one in five high school-aged boys has been given a diagnosis of attention deficit hyperactivity disorder, about twice the rate of girls in the same age group, according to an analysis of 2011-12 data from the Centers for Disease Control and Prevention. Related Article »

Children ages 4 to 17 ever given a diagnosis of A.D.H.D.



Southern states had higher rates of children with A.D.H.D. than the rest of the nation.



Note: The survey questioned about 1,400 households in each state concerning A.D.H.D. among children. The margins of sampling error were about three percentage points for each state, and less than two percentage points for age groups by sex.

Diagnostic practices in bipolar disorder

Moreno C, et al. Arch Gen Psychiatry. 2007;64:1032-1039.

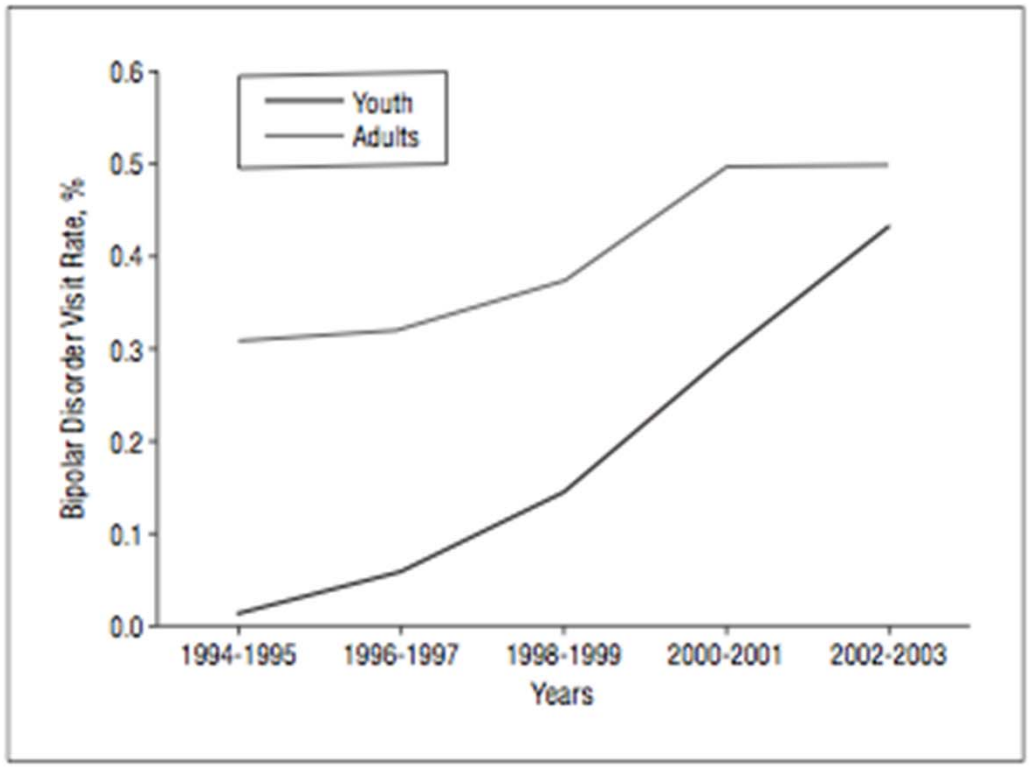
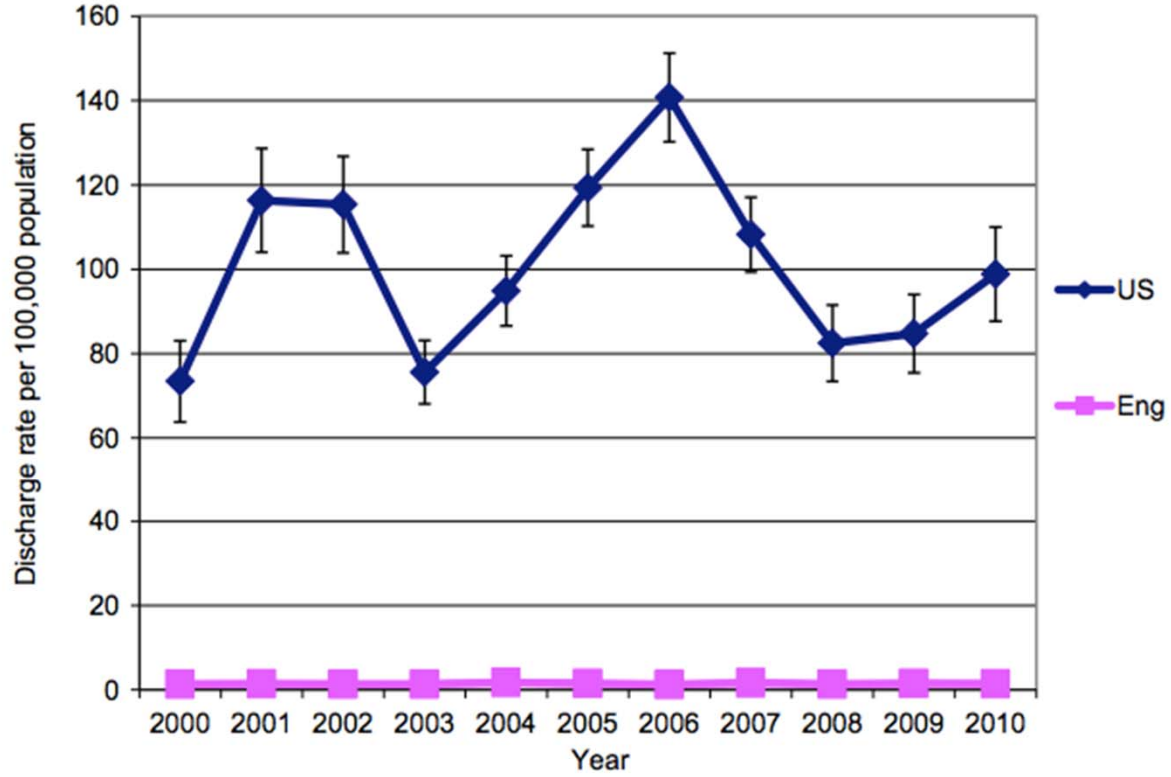


Figure. National trends in visits with a diagnosis of bipolar disorder as a percentage of total office-based visits by youth (aged 0-19 years) and adults (aged ≥20 years).

Pediatric Bipolar Disorder in the U.S. and England

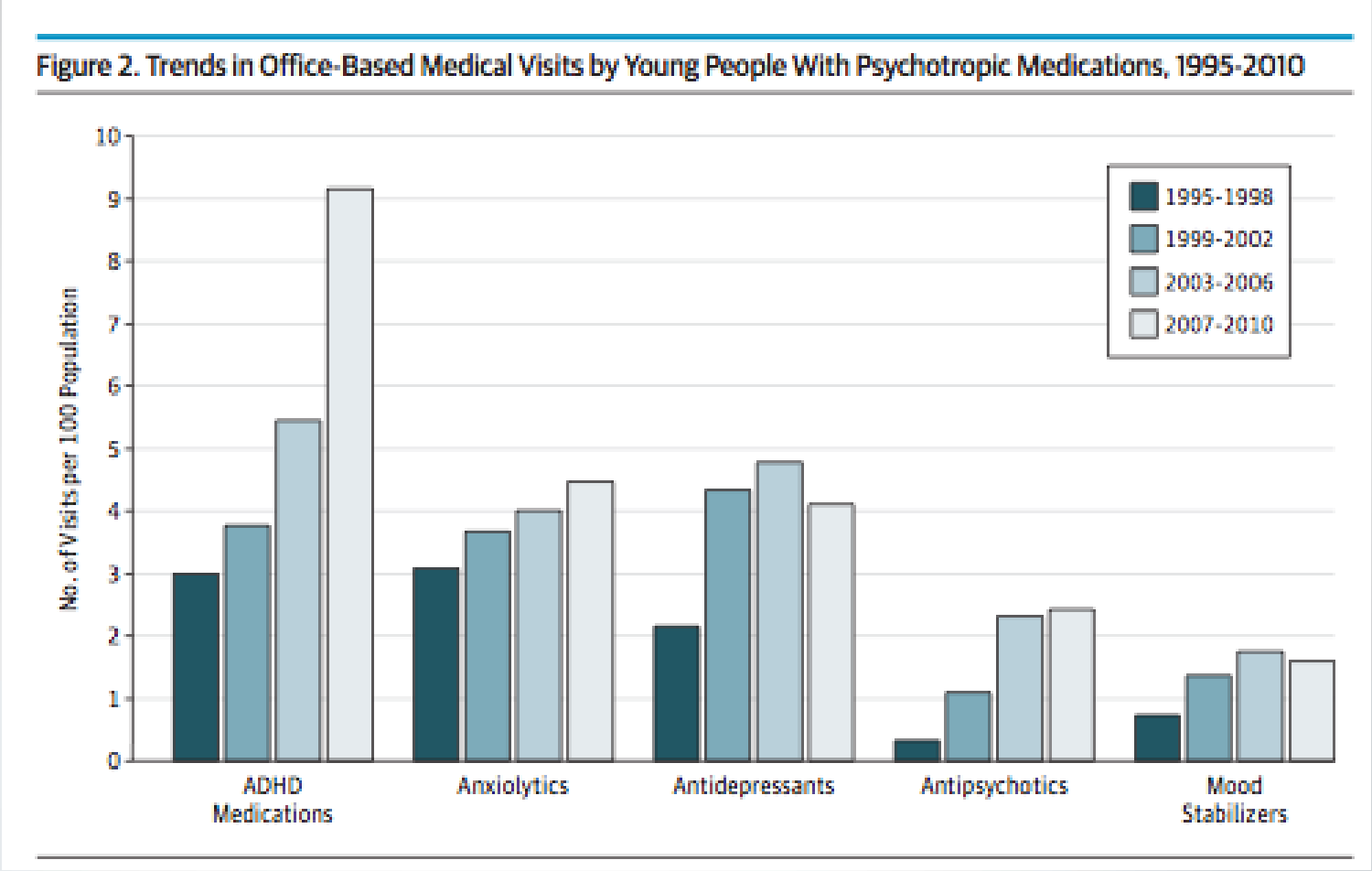
James A, et al. J Am Acad Child Adolesc Psychiatry. 2014;53:614-624.

FIGURE 2 Pediatric bipolar disorder (PBD) (ICD-9-CM codes 296.40–296.89; ICD-10 code F31 in patients aged 0–19 years) discharge rates per 100,000 population in the United States versus England by year, 2000 to 2010. Note: ICD-9-CM = International Classification of Diseases Version 9, Clinical Modification; ICD-10 = International Classification of Diseases Version 10.

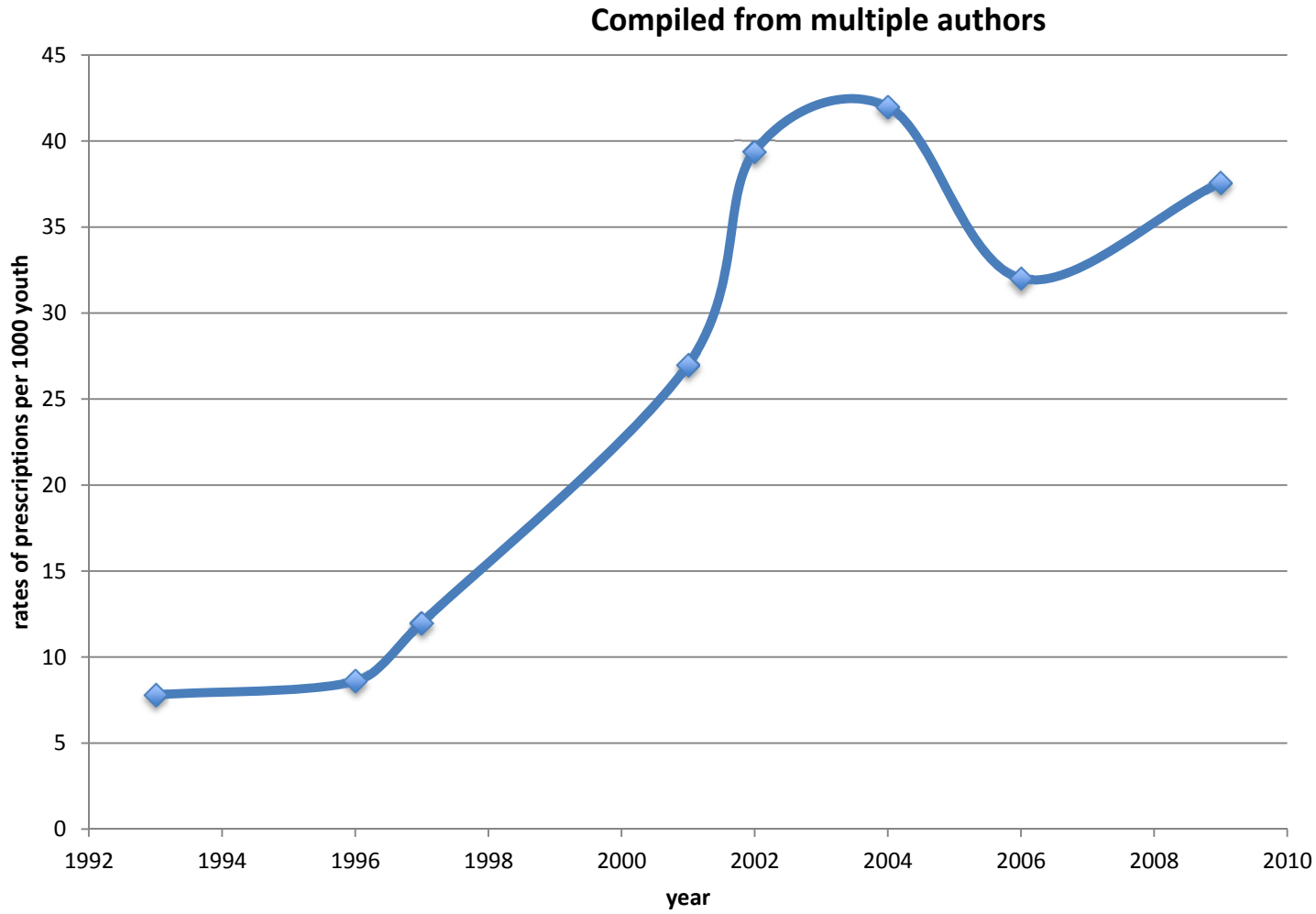


Significant increases in prescriptions

Olfson M, et al. JAMA Psychiatry. 2014.



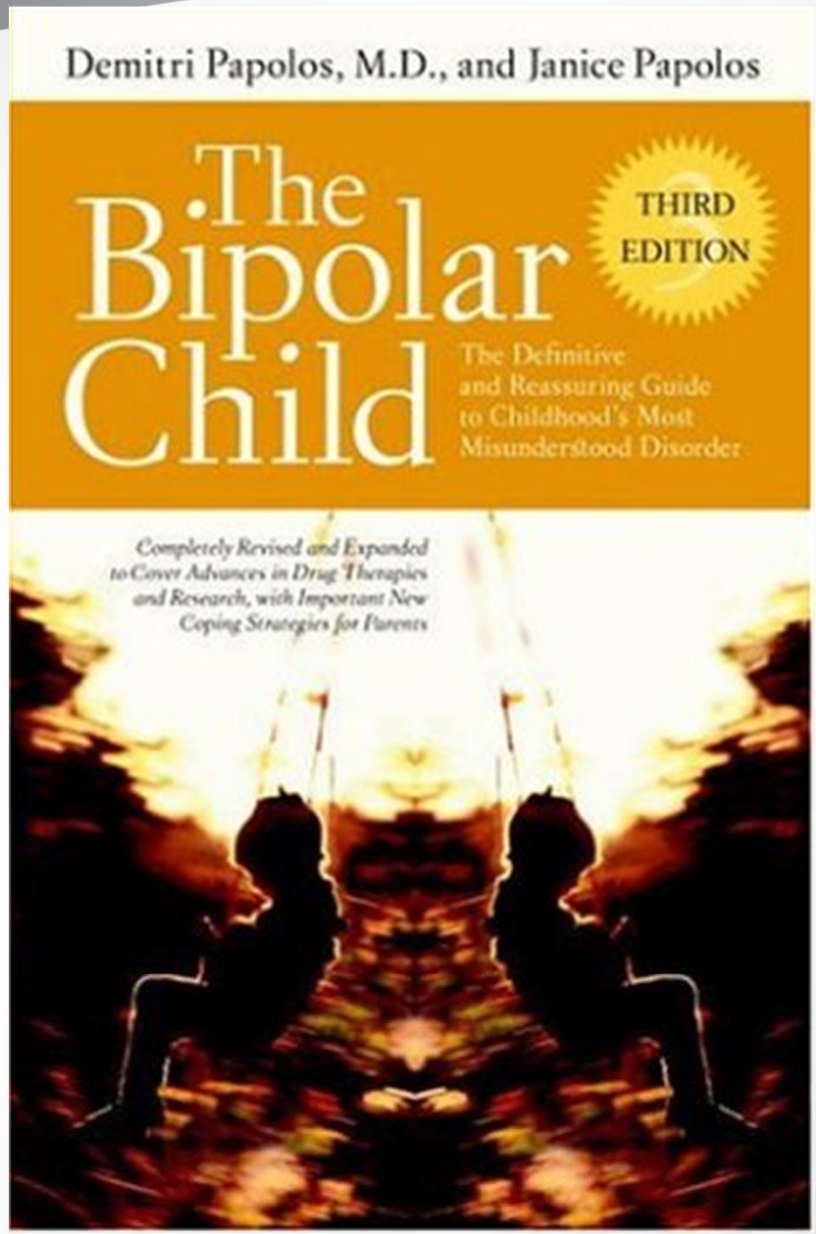
Rate of antipsychotic prescriptions per 1000 youth from 1993 to 2009



ADHD vs. Bipolar Disorder

why the confusion?

- Shared symptoms
  - Impulsivity, hyperactivity, irritability
- Narrow vs. Broad definitions of bipolar disorder
  - Classic mania with euphoria and grandiosity
  - Episodic vs. chronic symptoms
  - Chronic difficulties with mood regulation, irritability, aggression
- Paradigm shift in mental health diagnosis
  - Pediatric Bipolar Disorder in an era of “mindless” psychiatry
    - Parry PI, Levin EC. Journal of trauma & dissociation. 2012;13:51-68.


Demitri Papolos, M.D., and Janice Papolos
The Bipolar Child
THIRD EDITION
The Definitive and Reassuring Guide to Childhood's Most Misunderstood Disorder
Completely Revised and Expanded to Cover Advances in Drug Therapies and Research, with Important New Coping Strategies for Parents

Case 1 –T

- Evaluated at age 10 for anger and disruptive behavior
  - School – interrupted class, struggled with homework
  - Home – daily defiance, anger, frequent physical aggression, recent SIB
- Periods of poor sleep and “hyped up” behavior
  - Increased rate of speech, happy mood
  - Last 4 days, frequency about 4 times/year

Case 1 –T

- Treated for ADHD with methylphenidate and clonidine
- Family history of bipolar disorder
- PMH notable for food allergies and GI procedures
- Lives with both parents and 2 sisters, h/o marital problems, active in cheerleading and 4H camp
- Mental state exam unremarkable
- Initial diagnosis of ADHD, mood disorder NOS

Case 1 –T

- Teacher scales support combined type ADHD
  - Good grades and conduct
- Parent training program and case management services
- Medication issues
  - Off stimulants worse behavior
  - Bouts of insomnia
  - afternoon homework and irritability

Case 1 –T

- problems with lying and stealing at school
  - School management
- Anger explosions at church
- Home defiance and aggression
  - Dysfunctional and disengaged father

Case 1 –T

- More medication issues
  - Trial of quetiapine and trazodone for sleep
  - Trial of guanfacine for irritability
- Family issues
  - Compliance with in-home therapy
  - Grandparents home
  - Family move
  - Marital issues and mother's health issues

Case 1 –T

- Patient feels blamed and isolated in her family
  - Not close to her father
- Mom reports poor social understanding and function
- Current medications: methylphenidate extended release, guanfacine, trazodone

Case 1 –T

- What are the diagnostic features supporting ADHD, bipolar disorder, ODD, and DMDD?
- What is the role of parenting in this case?
- What therapies would be best for this patient?

Case 2 - L

- 7 year-old WM referred for aggression and disruptive behaviors at school
    - Long aggressive tantrums with regressive behaviors
    - Short episodes of euphoria
    - Self contained education with homebound
- Prescribed dexmethylphenidate ER and carbamazepine
- Family history of bipolar disorder, depression, and drug abuse.
- No reported history of abuse or medical problems
- Lives with parents, brother, and sister

Case 2 - L

- Profane and threatening on exam. Disruptive and interrupts.
- Diagnosed with ADHD, bipolar disorder NOS vs. ODD
- Teacher reports support ADHD and ODD
- Treated with risperidone and dexmethylphenidate-ER

Case 2 - L

- periods of calm marked by episodes of mood and aggression
  - Euphoria and sadness, push of speech, overactive behavior
  - Aggressive at home and school
  - Total homebound school
- Medication changes prompted by side effects and “worsening” episodes
- Parent management training, community-based collaborative services, educational efforts

Case 2 - L

- Seems to do best on a combination of atypical antipsychotic, stimulant, and clonidine
- Parent's marriage ends
  - Lack of effective involvement from biologic mother
    - » Compliance, drug use, abusive behavior
  - Introduction of step-mother
  - Deterioration in father's health
- Near hospitalization at the end of 3rd grade

Case 2 - L

- After a period of calm, progressive deterioration around Christmas of 4th grade year
- 3 inpatient hospitalizations with multiple medication changes
  - ECU, RTF, BCP
  - CPS report on biologic mother
  - Residential Treatment

Case 2 - L

- What are the diagnostic features of ADHD, Bipolar disorder, and DMDD in this patient?
- How do you decide the final diagnosis?
- How would you address the choice of medications for this patient?
- What are the familial risk factors in the case and what community and family supports could we consider?
- How could we improve the overall care of this patient?

DSM-5 criteria for Attention-Deficit/Hyperactivity Disorder

- ADHD DSM 5 diagnosis indicates 6 months of 6+ symptoms of either inattention and/or hyperactivity/impulsivity prior to 12 y/o and are present in 2 or more settings

inattention: fails to attend to work/schoolwork
difficulty sustaining attn. in tasks/play
not seem to listen
doesn't follow through on directions
cant organize and avoids tasks that involve sustained mental effort
loses things necessary for tasks
easily distracted
often forgetful

hyperactivity: fidgets with hands/feet
leaves seat
runs/climbs excessively or is restless
difficulty playing quietly
often "always going"
talks excessively

impulsivity: blurts out answers before question finished
difficulty waiting turn
often interrupts

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

ADHD Diagnostic Features

- About 5% of children and 2.5% of adults
- ADHD begins in childhood, most often identified in elementary school year
- 2:1 males:females
- Substantial family history of ADHD exists
- Features are chronic not episodic

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

DSM-5 criteria for manic episode

- Persistent elevated, expansive or irritable mood and increased goal-directed behavior
    - Lasting ≥ 1 week, nearly every day
    - Marked impairment in functioning
- ≥ 3 of 7 symptoms, ≥ 4 if the mood is only irritable
    - Inflated self-esteem or grandiosity
    - Decreased need for sleep
    - Increased talkative behavior
    - Flight of ideas
    - Distractibility
    - Increased goal-directed behavior
    - Excessive high-risk activities
- Hypomanic episode lasts ≥ 4 days, symptoms do not cause marked impairment in functioning or hospitalizations

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

Diagnostic features for bipolar disorder

- 12 month prevalence of bipolar I disorder is 0.6%
- Mean age of onset is 18 years
- Family history is a strong risk factor, 10 fold increased risk among 1st degree relatives

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

Bipolar/ADD continuity

- Bipolar disorder associates with ADHD
  - In children with BP, rates of co-morbid ADHD ranges from 11% to 98%
    - Arnold LE, et al., Bipolar Disord. 2011;13:509-521.
  - 22% of ADHD patients have BP
    - Joshi and Wilens 2009
- ADHD and Bipolar share multiple symptoms
  - Insomnia, distractibility, flight of ideas, pressured speech, intrusiveness, irritability/anger

Distinction Between Bipolar Disorder and ADHD

Geller B, et al. J Child Adolesc Psychopharmacol. 2002;12:3-9.

Symptoms	Bipolar	ADHD
Elevated mood	89%	14%
Grandiosity	86%	5%
Flight of idea and/or racing thoughts	71%	10%
Decreased need for sleep	40%	6%
Hypersexuality	43%	6%

Longitudinal Assessment of Manic Symptoms, (LAMS) study

- Mood symptoms = Symptoms occurring only episodically in company of other mood symptoms
- ADHD/ODD symptoms = symptoms with chronic presentations extending beyond time of a mood disorder
- Comorbid symptom = preexisting symptom that worsens only during a mood episode

Arnold LE, et al., Bipolar Disord. 2011;13:509-521.

From: Longitudinal Trajectories and Associated Baseline Predictors in Youths With Bipolar Spectrum Disorders

Birmaher B, et al. Am J Psychiatry. 2014;171(9):990-999. doi:10.1176/appi.ajp.2014.13121577

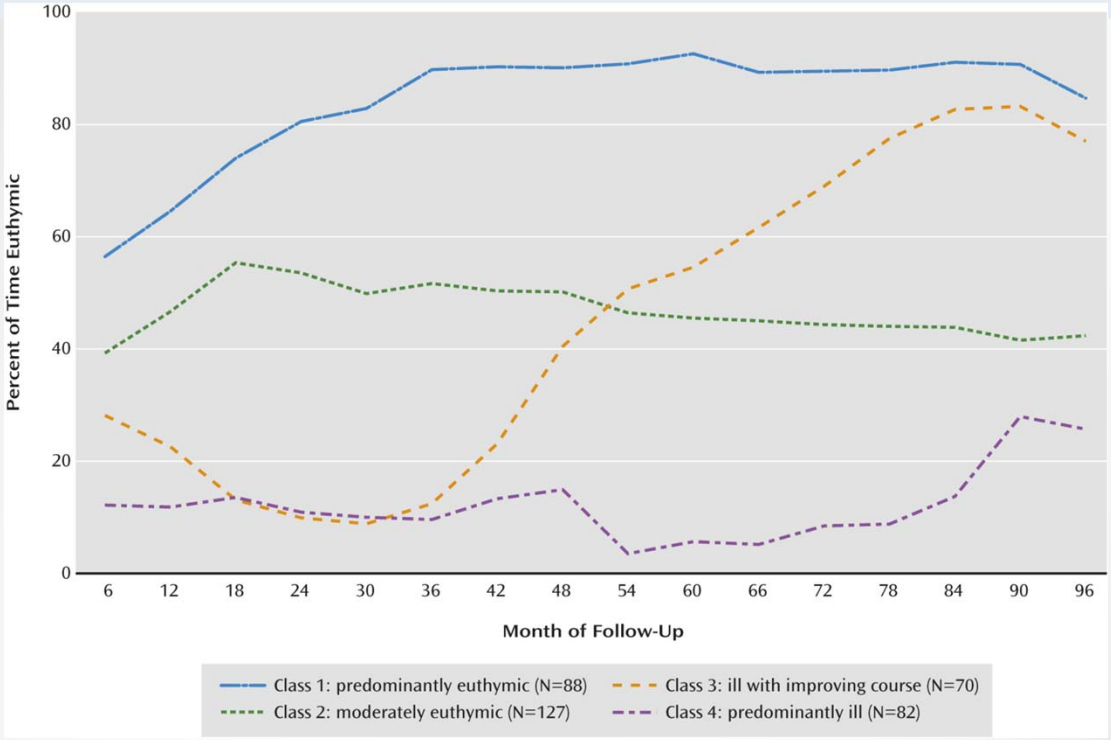


Figure Legend:

Latent Class Growth Analysis Based on Percentage of Time Euthymic for Youths With Bipolar Disorder Who Had at Least 4 Years of Follow-Up

Oppositional Defiant Disorder

- angry irritable mood, argumentative/defiant behavior lasting > 6 months with 4+ of following not involving a sibling
  - Angry/irritable mood
    - Often loses temper
    - Often touchy or easily annoyed
    - Often angry and resentful
  - Argumentative and defiant behavior
    - Often argues with adults or authority figures
    - Often defies rules or refuses to comply
    - Deliberately annoys others
    - Often blames others for his or her mistakes or misbehavior
  - vindictiveness
    - Has been spiteful or vindictive twice in the last 6 months
- For children ≥ 5 years behaviors should occur at least once a week for ≥ 6 months

DSM-5 criteria for Disruptive Mood Dysregulation Disorder

- Severe recurrent temper outbursts with rages and aggression
- Behaviors are not consistent with developmental level
- Occur ≥ 3 times a week
- Persistent irritable or angry mood between episodes
- Symptoms present ≥ 12 months with no symptom free periods ≥ 3 months
- Symptoms are present ≥ 2 settings, with severe symptoms in one setting
- Age of onset < 10 years, age ≥ 6 years and ≤ 18 years
- No mania or hypomania criteria > 1 day

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

DMDD Diagnostic Features

- Importance of severe non-episodic irritability
    - vs. discrete episodes of mood syndromes
- Estimated prevalence 2% - 5%
- 50% still have diagnosis at one year
- Low rate of conversion to pediatric bipolar disorder but high risk for depression and anxiety
- 15% of children with ODD meet criteria for DMDD

American Psychiatric Association., Diagnostic and statistical manual of mental disorders : DSM-5. 5th ed. Arlington, Va.; 2013.

DMDD: A new approach to chronic irritability in youth

- Differs from bipolar disorder
  - Family history, neurophysiological studies
- Differs from ODD
  - Frequency of outbursts, duration of disorder, degree of impairment and number of settings
  - 70% of those with DMDD met criteria for ODD
  - 40% of those with ODD met criteria for DMDD
    - Roy AK, et al., Am J Psychiatry 2014; 171:918-924)