Clinical Pearls in Differential Diagnosis: Differentiating Adult ADHD from Bipolar Disorder

Saundra Jain, MA, PsyD, LPC
Executive Director
Mental Aerobics Project
Lake Jackson, Texas
What Do You See?

What you see isn't always what you get.
12-Month Prevalence: Focus on Severity and Comorbidities

Diagnostic Rationale

- **multiple symptoms**
  - 1 diagnosis

- **multiple symptoms**
  - 1 diagnosis does **not** explain symptoms

- **multiple symptoms**
  - >1 diagnosis better explains patient’s symptoms

Delayed Identification of ADHD and Bipolar Disorder and the Consequences
Undiagnosed ADHD: Impairment in Adults

Bipolar Disorder: Possible Consequence of Misdiagnosis

PGWB, Psychological General Well-Being Index; SF-8, Medical Outcomes Study 8-Item Short-Form Health Survey.

Advantages of Using Scales and Screeners

- **Improve Patient Outcomes**
- **Time Efficient**
- **Avoid Making an Incorrect Diagnosis & Missing Comorbidities**
- **Avoid Potential Catastrophic Results (e.g., hospitalization, suicide)**
- **Good Sensitivity & Specificity**
- **Make Great Safety Nets – Avoid Missing Important Pieces of Information**
## Diagnostically, How Well Are We Doing?

<table>
<thead>
<tr>
<th>PSYCHIATRIC DIAGNOSES</th>
<th>KAPPAS FOR IN-PERSON INTERVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major depression</td>
<td>0.73</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>0.86</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>0.76</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Average Kappa = 0.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDICAL/NEUROLOGICAL DIAGNOSES</th>
<th>KAPPAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischemic stroke</td>
<td>(average) 0.53</td>
</tr>
<tr>
<td>Colorectal Adenocarcinoma</td>
<td>0.78</td>
</tr>
<tr>
<td>Renal stenosis</td>
<td>0.43</td>
</tr>
<tr>
<td>Knee osteoarthritis</td>
<td>0.1</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td>Average Kappa = 0.55</td>
</tr>
</tbody>
</table>

**NOTE: Values above 0.60 indicate substantial interrater reliability**

Selecting a Screener or Scale: A Great Safety Net
Scales and Screeners: An Important Step In a Diagnostic Assessment

- Listens to Patient Description
- Obtains Comprehensive Clinical Interview
- Collects Family/Collateral Information
- Gathers Longitudinal History
- Utilizes Screeners & Scales
- Utilizes Diagnostic Trees
- Assesses for Comorbidities

Accurate Diagnosis or Diagnoses

Selecting a Screener or Scale: A Great Safety Net
To Understand the Differential Diagnosis of ADHD from Bipolar Disorder, We Must First Know the Individual Disorders Well
Diagnostic Muddy Water?

ADHD

- Inattentive
- Hyperactivity/Impulsivity
- Combined

Bipolar Disorder

- Depressed
- Manic
- Hypo-manic
- Mixed
Irritability Across Disease States
(Partial List)

Irritability

- ADHD¹
- Depressive Disorders¹
- Bipolar Disorders¹
- GAD¹
- Endocrine Disorders³
- Dementia⁴
- PTSD¹
- Substance Use and Withdrawal States¹
- Sleep Disorders⁵
- PMDD¹

A shared symptom of multiple psychiatric and medical conditions

Distractibility Across Disease States
(Partial List)

A shared symptom of multiple psychiatric conditions

Symptom Overlap = Diagnostic Confusion

Symptoms
• Distractibility
• Impulsivity
• ↑ Talkative
• ↑ Increased Motor Activity
• Physical Restlessness
• Loss of “Normal” Social Inhibitions

### Non-overlapping Symptoms

<table>
<thead>
<tr>
<th>Bipolar Disorder</th>
<th>Feature</th>
<th>ADHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>More episodic and cyclical nature</td>
<td>Course of illness&lt;sup&gt;1&lt;/sup&gt;</td>
<td>More chronic and not cyclical</td>
</tr>
<tr>
<td>Typically &gt;7 years of age</td>
<td>Age of onset&lt;sup&gt;2&lt;/sup&gt;</td>
<td>&lt;7 years of age</td>
</tr>
<tr>
<td>+ for mood disorders</td>
<td>Family history&lt;sup&gt;2&lt;/sup&gt;</td>
<td>+ for ADHD</td>
</tr>
<tr>
<td>Decreased need for sleep</td>
<td>Sleep impairment&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Variable, less disruption</td>
</tr>
<tr>
<td>Present in some cases</td>
<td>Psychoses (delusions, hallucinations, or thought disorders)&lt;sup&gt;3,4&lt;/sup&gt;</td>
<td>None</td>
</tr>
<tr>
<td>Can be present in manic / mixed phase</td>
<td>Inflated Self-Esteem&lt;sup&gt;3&lt;/sup&gt;</td>
<td>None</td>
</tr>
</tbody>
</table>

ADHD: Across the Lifespan

Inattention
Disorganized

Hyperactivity
Fidgets or squirms in seat

Impulsivity
Blurts out answers

Forgetfulness affects work/home/financial/personal life
Can’t sit still in business meetings, restlessness
Intrusive Behavior

ADHD: Symptom Progression Across the Lifespan

- **Pre-School**
  - Delayed ABC’s & colors
  - Kicked out of daycare

- **School-age**
  - Does’t listen well
  - In-school suspension
  - Poor academic performance

- **Adolescent**
  - Disruptive behavior
  - Alcohol/substance abuse problems
  - Drops out
  - Poor money management
  - Significant job impairment

- **College**
  - Poor academic performance

- **Adult**
  - Alcohol/substance abuse problems
  - Drops out

The Phases of Bipolar Disorder

Mania

Depression

Normal Mood

Mixed

Misdiagnosis: Patients With Bipolar Disorder

N=600

69% Previously Misdiagnosed

Patients were incorrectly diagnosed with:

- Unipolar Depression 60%
- Anxiety Disorders 26%
- Schizophrenia 18%
- Borderline or Antisocial PD 17%
- Alcohol or Substance Abuse/Dependence 14%
- Schizoaffective Disorder 11%

- For 35% of those with prior misdiagnosis, lapse in time from first treatment seeking to accurate diagnosis was 10 years or longer
- On average, people with Bipolar Disorder who were previously misdiagnosed received 3.5 misdiagnoses and consulted 4 physicians before receiving an accurate diagnosis

What About the Comorbidity of These Disorders?
Adult ADHD “Ring of Fire”
NCS-R: Psychiatric Comorbidities

NCS-R, National Comorbidity Survey Replication.
Bipolar Disorder “Ring of Fire”
Psychiatric Comorbidities

- Substance Abuse: 41%\(^4,5\)
- Alcohol Abuse: 46%\(^4,5\)
- Bipolar Disorder: ~20%\(^6\)
- OCD: 3-39%\(^1,2\)
- Phobias: 10-26%\(^2-4\)
- Panic Disorder: 7-33%\(^1-4\)
- GAD: 11-43%\(^1,3,4\)
- ADHD: ~20%\(^6\)

References:
What We Learned from STEP-BD

- Earlier Age of Onset (BD) = More Virulent
- Shorter Well Intervals
- Poorer Prognosis
- Greater Propensity to Depression
- More Depressive Episodes
- Higher Rates of Comorbidity (Anxiety/SUDs)
- Hx of Aggression & Violence

Bipolar Disorder + ADHD

ADHD and SUD Comorbidity

Bipolar Disorder With SUD: Lifetime Comorbidity

With Any Comorbid SUDs: 60.3%
No Comorbid SUDs: 39.7%

Comorbid SUDs:
- Alcohol Abuse: 56.3%
- Alcohol Dependence: 38.0%
- Drug Abuse: 48.3%
- Drug Dependence: 30.4%

Merikangas KR et al. Arch Gen Psychiatry. 2007;64(9):543-552.
Bipolar Spectrum Diagnostic Scale (BSDS)

Instructions: Please read through the entire passage below before filling in any blanks.

Some individuals notice that their mood and/or energy levels shift drastically from time to time ___. These individuals notice that, at times, their mood and/or energy level is very low, and at other times, very high ___. During their “low” phases, these individuals often feel a lack of energy; a need to stay in bed or get extra sleep; and little or no motivation to do things they need to do ___. They often put on weight during these periods ___. During their low phases, these individuals often feel “blue”, sad all the time, or depressed ___. Sometimes, during these low phases, they feel hopeless or even suicidal ___. Their ability to function at work or socially is impaired ___. Typically, these low phases last for a few weeks, but sometimes they last only a few days ___. Individuals with this type of pattern may experience a period of “normal” mood in between mood swings, during which their mood and energy level feels “right” and their ability to function is not disturbed ___. They may then notice a marked shift or “switch” in the way they feel ___. Their energy increases above what is normal for them, and they often get many things done they would not ordinarily be able to do ___. Sometimes, during these “high” periods, these individuals feel as if they have too much energy or feel “hyper” ___. Some individuals, during these high periods, may feel irritable, “on edge”, or aggressive ___. Some individuals, during these high periods, take on too many activities at once ___. During these high periods, some individuals may spend money in ways that cause them trouble ___. They may be more talkative, outgoing, or sexual during these periods ___. Sometimes, their behavior during these high periods seems strange or annoying to others ___. Sometimes, these individuals get into difficulty with co-workers or the police, during these high periods ___. Sometimes, they increase their alcohol or non-prescription drug use during these high periods ___.

Now that you have read this passage, please check one of the following four boxes:

- ☐ This story fits me very well, or almost perfectly
- ☐ This story fits me fairly well
- ☐ This story fits me to some degree, but not in most respects
- ☐ This story does not really describe me at all

Now please go back and put a check after each sentence that definitely describes you.

Scoring: Add your total of check marks from the first 19 sentences. To that total, add the number in parentheses below for the line you selected:

- this story fits me very well, or almost perfectly (6)
- this story fits me fairly well (4)
- this story fits me to some degree (2)
- this story doesn't really describe me at all (0)

<table>
<thead>
<tr>
<th>TOTAL SCORE</th>
<th>LIKELIHOOD OF BIPOLAR DISORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6</td>
<td>Very Unlikely</td>
</tr>
<tr>
<td>6-10</td>
<td>Low Probability</td>
</tr>
<tr>
<td>11-18</td>
<td>Moderate Probability</td>
</tr>
<tr>
<td>19 or higher</td>
<td>Highly Likely</td>
</tr>
</tbody>
</table>
Where the Rubber Meets the Road: Practical Clinical Tips and Resources

Too hard!

Too soft!

Just right!

Novice Clinician

Maturing Clinician

Seasoned Clinician
Resources of Interest

M.I.N.I. UPDATE: Validated Structured Diagnostic Assessment

Medical Outcomes Website

- MINI
- e-MINI
- Dolphin EDC (2.0)

- Paper version
- Online
- Private Practice
- Student
- $19.95 (per use)
- 10 languages
- Web-based version
- Does not require
- e-MINI version
- USD
- MRI
- 30 languages
- 15 languages
- 15 languages
- 15 languages

Bipolar Monthly Mood Chart (BMMC)

- Online
- www.psychology.com/bmm.html

Websites for Screeners and Scales
- ADHD-RS: www.healthsource.com/drugs/ADHD/Screening/ADHDRS.pdf
- ASRS-V1: www.tgh.net/documents/psychiatrist/tgha/ADHD/ASRSv1v1.pdf
- BPRS: www.healthsource.com/drugs/ADHD/Screening/BPRS.pdf
- MOA: www.assistant.com/094/ADHD/Screening/MOA.pdf
- BHO: www.healthsource.com/drugs/ADHD/Screening/BHO.pdf
- GAD-7: www.healthsource.com/094/ADHD/Screening/GAD-7.pdf
- GAD-7: www.assistant.com/094/ADHD/Screening/GAD-7.pdf
- MINI: www.healthsource.com/drugs/ADHD/Screening/MINI.pdf

ADHD & Mood Disorder Decision Tree

- Note: Depression, Bipolar Disorder, anxiety disorders and substance use disorders are frequent comorbidities with all of the above psychiatric conditions. Screen for these conditions proactively.

Bipolar Decision Tree

- Note: ADHD, Anxiety Disorders and Alcohol/Substance Use Disorders are frequent comorbidities with all of the above psychiatric conditions. Screen for these conditions proactively.

DSM-IV Criteria: Mixed Episode

A. Mixed Episode

1. Major Depressive Episode
   - 5 or more of the following symptoms, including at least 2 marked mood symptoms (depressed mood or irritable mood):
     - Depressed mood
     - Loss of interest in activities
     - Weight loss or gain
     - Sleep disturbance (insomnia or hypersomnia)
     - Psychomotor retardation/orientation
     - Fatigue (loss of energy)
     - Seizure disorders
     - Inability to concentrate or indecisiveness
     - Suicide ideation (recurrent thoughts of death)

2. Mixed Episode
   - Abnormalities and persistently elevated, expansive or irritable mood:
     - Inflated self-esteem or grandiosity
     - Decreased need for sleep
     - Engaged in goal-directed activity
     - Increased goal-specific speech
     - Flight of ideation/hallucinations
     - Guilt
     - Risk-taking behavior

B. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others, or there are psychotic features.

C. The symptoms are not due to the direct physiological effects of a substance (i.e., a drug of abuse, a medication, or other treatment) or a general medical condition (e.g., hypothyroidism).

Note: Mixed-like episodes that are clearly caused by antidepressant treatment (e.g., medication, electroconvulsive therapy, light therapy) should not count toward a diagnosis of Bipolar I Disorder.

ADHD: Algorithm

STEP ONE

- Do you have a history of ADHD?
- Do you have a history of Tourette's?
- Do you have a history of enuresis?
- Do you have a history of dyslexia?
- Do you have a history of dysgraphia?
- Do you have a history of dyscalculia?
- Do you have a history of dyspraxia?
- Do you have a history of anxiety?
- Do you have a history of depression?
- Do you have a history of bipolar disorder?
- Do you have a history of schizophrenia?
- Do you have a history of autism?
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- Do you have a history of dyspraxia?
- Do you have a history of anxiety?
- Do you have a history of depression?
- Do you have a history of bipolar disorder?
- Do you have a history of schizophrenia?
- Do you have a history of autism?

DIAGNOSIS

- A diagnosis of ADHD must meet DSM-IV or DSM-IV-TR criteria.
A Busy Clinician’s Treasure Chest

Creating a Tool Box Filled with Screeners and Rating Instruments to Improve Patient Outcomes

While psychiatry is not lacking in diagnostic tools, they are underutilized in the field. In a personal communication with Dr. John Rush, a lead architect on NIMH’s STAR-D study, he stated that based on his informal polling of audiences of psychiatrists, “Less than 10 percent routinely use any measure to assess outcomes and less than 5% use a structured interview of any type to assist in diagnosis.” My clinical experience supports Dr. Rush’s observation - scales and screeners are grossly underutilized. I saw a definite need to initiate a dialogue with my colleagues to encourage the use of scales and screeners in every day clinical practice. Why? Simply put - they improve diagnostic yield leading to better outcomes.

Advantages of Using Scales & Screeners

- Improve Patient Outcomes
- Time Efficient
- Make Great Safety Nets - Avoid Missing Important Pieces of Information
- Avoid Making an Incorrect Diagnosis & Missing Co-morbidities
- Good Sensitivity And Specificity
- Avoid Potential Catastrophic Results (eg: hospitalization, suicide)
What Others Are Saying About Using Scales and Screeners

“They actually save me time in my practice.”

“Has changed the way I practice medicine.”

“Stimulated my thinking. Recommit again to using instruments.”

“Through using scales and screeners, I continue to uncover previously undiagnosed bipolar patients.”
Scales and Screeners

- ADHD Rating Scale (ADHD-RS)
- Adult ADHD Self-Report Scale (ASRS-VI.I)
- Bipolar Spectrum Diagnostic Scale (BSDS)
- Brief Psychiatric Rating Scale (BPRS)
- CAGE (Cut down on drinking, Annoyances with criticisms about drinking, Guilt about drinking, and using alcohol as an Eye opener)
- Drug Abuse Screening Test (DAST-10)
- Generalized Anxiety Disorder 7-item Scale (GAD-7)
- Hamilton Rating Scale for Anxiety (HAM-A)
- Hamilton Rating Scale for Depression (HAM-D)
- Mood Disorder Questionnaire (MDQ)
- Mini International Neuropsychiatric Interview (MINI)
- Patient Health Questionnaire (PHQ-9)