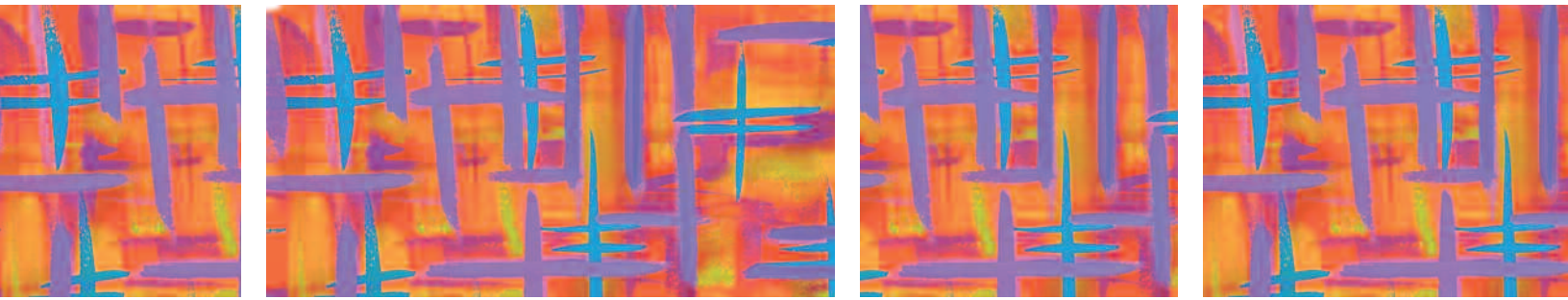


APSARD ADHD and Comorbidity Newsletter



Can bipolar disorder and ADHD truly be comorbid?

Unraveling psychiatric comorbidities can often be a chicken-or-the-egg conundrum. Did the patient's depression lead to substance abuse or did his alcoholism lead to the mood disorder? The same is true with comorbid *pediatric attention deficit hyperactivity disorder* (ADHD) and bipolar disorder (BPD). The current paradigm, as suggested by a recent paper by Youngstrom, Arnold, and Frazier, is that because the symptoms of ADHD can be present in other disorders, the strategies used to disentangle the diagnosis are 2-fold: First, focus on symptoms that are more specific to mania, such as elated mood, grandiosity and unstable self-esteem, or decreased need for sleep.¹ Include in your assessment any neurocognitive deficits that are more specific to bipolar disorder, such as problems with verbal learning and memory, as compared with inattention and executive function deficits that are common in patients with ADHD. The second strategy is to assess the course of the symptoms. A more episodic presentation is suggestive of a mood disorder, and a more chronic, longitudinal presentation (e.g., childhood onset with persistence into adulthood) suggests ADHD. Combining these strategies, chronically persistent inattention, distractibility, hyperactivity, and impulsiveness without high-specificity, non-overlapping symptoms of mania or episodic exacerbations is "pure" ADHD. Episodic symptoms that include high-specificity symptoms are more representative of mania. Chronic hyperactivity, impulsiveness, and attention problems with episodic exacerbation would be consistent with comorbid pediatric BPD superimposed on ADHD.

Is there, in fact, true comorbidity between ADHD and bipolar disorder? According to Caron and Rutter, epidemiological data show that the co-occurrence of two, allegedly separate psychiatric conditions far exceeds that expected by chance.² Based on that premise, they suggested that several mechanisms exist that contribute to comorbidity: 1) overlapping risk factors or common underlying dimensions of cognitive, behavioral, or affective dysfunction, (2) comorbidity creating a distinct syndrome, and (3) one disorder increasing risk for the other.

Overlapping dysfunctions

A meta-analysis of neurocognitive functioning in pediatric BPD identified substantial declines in verbal learning and long-term memory with intact intellectual abilities.³ In contrast; individuals with ADHD have scant or no verbal memory dysfunction relative to healthy controls. This suggests that the substantial but incomplete BPD-ADHD comorbidity may be due to a combination of shared and specific risk factors.

The distinct subtype

Comorbidity may also indicate a distinct disorder subtype. Faraone and colleagues ascertain that comorbid ADHD may be a characteristic of a pediatric-onset variant of BPD.⁴ This comorbid ADHD and bipolar subtype might be a version with a more chronic course and more severe impairment. However, the symptoms of comorbid ADHD often persist even after mood symptoms have responded to intervention; they then can be controlled with adjunctive stimulant therapy.⁵

The causal relationship

ADHD or BPD could conceivably create an increased risk of the other condition, a plausible theory if one not yet demonstrated in prospective longitudinal studies.¹ Given the typical ages of onset; one might surmise that ADHD is the more likely risk factor for pediatric BPD than vice versa.

Order of treatment

When both ADHD and BPD are diagnosed together, it is usually clinically useful to consider the BPD the initial and primary target of treatment, even if the ADHD came first chronologically. Why? For two reasons: (a) the greater severity and more severe prognosis of BPD; and (b) the risk that medications for ADHD may exacerbate bipolar symptoms if the patient is not first covered by a mood stabilizer. In some cases there may be only symptoms of ADHD without non-overlapping symptoms, but the ADHD

continued on page 3

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Exploring ADHD and psychiatric comorbidities

Welcome to the first issue of the ADHD and Comorbidity Newsletter developed by the American Professional Society for Attention and Related Disorders (APSARD). This newsletter series is designed to present the latest evidenced-based findings on attention deficit hyperactivity disorder and comorbid mental health disorders. A new issue will be published every 2 months. In each newsletter, we will review recent and relevant literature, discuss several pertinent topics in detail and present the evaluation and treatment of a pertinent case.

In this first issue, we focus on ADHD and comorbid mood disorders, major depression and bipolar disorder. You will meet Tammy, a 34-year old teacher. Her case study highlights the complexities of treating comorbid bipolar disorder and ADHD. Our lead story explores whether ADHD and bipolar are in fact comorbid or whether one is a subtype of the other. Also, you can find out how adverse childhood disorders affect adult mental and physical health, and how depression is treated around the world with efforts to standardize international treatment guidelines.

We look forward to continuing to presenting you the latest findings in ADHD and comorbid mental health disorders. Please visit the APSARD site for more information and membership.

Cordially,

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The American Professional Society of ADHD and Related Disorders (APSARD) is an international organization consisting of a broad spectrum of allied mental health experts working to improve the quality of care for patients with ADHD through the exchange of research, best practices and evidence-based insights. APSARD offers a range of services including a comprehensive website, an annual scientific meeting, a quarterly peer-reviewed journal, and the development of guidelines that address diagnosis, assessment and treatment of ADHD across the lifespan. For more information about APSARD or to join please visit APSARD.org.

Statement of need

According to the National Comorbidity Survey Replication, a nationally representative household survey that used a lay-administered diagnostic interview to assess a wide range of DSM-IV disorders, approximately 1 in every 5 people with attention deficit hyperactivity disorder (ADHD), has comorbid bipolar disorder (BPD).¹ The highs and lows of BPD can push the symptoms of ADHD into the shadows. The ensuing problem from a therapeutic standpoint is that while a patient may receive an appropriate diagnosis and treatment for BPD, the ADHD may be overlooked and, therefore, remain untreated. Thus, the patient continues to experience devastating symptoms that are not being treated by the BPD medication. How does the clinician deal with this conundrum? The highs and low of BPD are often severe and incapacitating. The manic symptoms that typically accompany bipolar depressive episodes can easily be overlooked when they appear less prominent than depressive features.² Prescribing an antidepressant in such instances only serves to unmask manic phases. Therefore, a mood stabilizer would be more suitable. After the patient is euthymic, ADHD symptoms can then be addressed. The intent of this issue is to unravel comorbid psychiatric disorders and to aid the clinician in successfully triaging and subsequently treating each disorder.

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Learning objectives

After completing this newsletter, the reader should be better able to:

1. Describe how symptoms of ADHD may be present in other psychiatric disorders, such as bipolar disorder, and that such comorbidities warrant an initial therapeutic strategy based on the most impairing condition.
2. Recognize that most children and adults with ADHD also have a comorbid psychiatric condition.
3. Explain the need for international guidelines for treating depression using the most effective therapeutic agents indicated for that disorder.
4. Extrapolate adverse childhood experiences to both psychiatric and somatic abnormalities in later life and understand that, by identifying the occurrence of such experiences, the sequelae of these incidents can be controlled and/or minimized.

symptoms are of such intensity that the clinician suspects they may be prodromal of BPD, especially with a family history of BPD. In that case, it is acceptable to first treat the ADHD (possibly considering a non-stimulant medication rather than stimulant), but inform the family of your concern, monitor very closely for breakthrough of mania, and be prepared to institute a mood stabilizer quickly.

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Please consider the following question before proceeding with the article. Please find the answer for this question on page 9 of the article.

1. Which statement regarding ADHD symptoms in comparison with bipolar symptoms is true?
 - A. Symptoms specific to ADHD include elated mood, grandiosity and unstable self-esteem
 - B. Individuals with bipolar disorder have scant or no verbal memory dysfunction
 - C. In the bipolar patient, symptoms of comorbid ADHD often dissipate after mood symptoms have responded to intervention
 - D. ADHD symptoms can be present in other psychiatric disorders

Large survey highlights excess of comorbidities among children with ADHD

A survey published this year by National Survey of Children's Health which involved over 60,000 children ages 6 to 17 years, including over 5,000 with ADHD showed that psychiatric and functional comorbidities were very common in children with ADHD.¹

Of children with ADHD, 67% had at least 1 other mental health or neurodevelopmental disorder, compared with 11% of children without ADHD – 33% had 1 comorbid disorder; 16% had 2; and 18% had 3 or more. Children with ADHD were almost 8 times more likely than other children to have learning disabilities or an anxiety disorder, 12 times more likely to have a conduct disorder or a speech problem, and 14 times more likely to be depressed ($P < .05$ for all comparisons). **See Table 1.**

Household income also impacted the findings: the risk of having 3 or more comorbidities was 4-fold higher for poor versus affluent children (30% vs. 8%). Children with ADHD had higher rates of school problems, grade repetition, and poor parent-child communication, whereas child social competence scores were lower and parent aggravation higher. Functioning declined in a stepwise fashion with increasing numbers of comorbidities, and use of health and educational services and need for care coordination increased.

The authors of the study concluded that health care professionals, educators, and parents need to be aware of the high prevalence of mental health and neurodevelopmental comorbidities among American school-aged children with ADHD.

Adults with ADHD and comorbidities have been able to backtrack to childhood and realize that their conditions might have been controlled before the real damage of adult ADHD – incarceration, spotty employment record, dismal relationship history – entrenches itself in their personalities. This is the real challenge of the health care system: recognizing the problem in an affected child before the child becomes an impaired adult.

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Table 1. Prevalence of Comorbid Disorders for Children with ADHD versus Children without ADHD (N= 61,779).¹

Disorder	No ADHD (%)	ADHD* (%)	Adjusted relative risk [†]
Learning disability	5.3	46.1	7.8
Conduct disorder	1.8	27.4	12.6
Anxiety	2.1	17.8	7.5
Depression	1.4	13.9	8.0
Speech problem	2.5	11.8	4.4
Autism spectrum disorder	0.6	6.0	8.7
Hearing problem	1.2	4.2	2.8
Epilepsy/seizures	0.6	2.6	3.9
Vision problem	1.4	2.3	1.5

* $P < .05$ for χ^2 test – comparisons for all ADHD versus no ADHD

[†]Relative risks were adjusted for child age, gender, race/ethnicity/parent education, household income, and family structure.

Citation:

1. Larson K, Russ SA, Kahn RS, Halfon N. Patterns of comorbidity, functioning, and service use for US children with ADHD, 2007. *Pediatrics*. 2011;127(3):462-70.

Striving for a new world order in treating depression

Depending on where you live on the planet, pharmacotherapy for depression may be different.

In many Middle Eastern countries, depression is treated with benzodiazepines, rather than antidepressants.¹ In Japan, the selective serotonin reuptake inhibitors (SSRIs) are the drugs of first choice for depression.² In urban China, one is more likely to be prescribed a newer antidepressant; in rural China “benzos” are not only relied upon but they are overprescribed.³ In Europe and the United States, the main first-line approaches are antidepressants and/or evidence-based psychotherapy; benzodiazepines have a very limited role in managing depressed patients.⁴

Many nations have treatment guidelines for depression in place. Yet, the guidelines are often not followed by physicians because of a lack of systematic means to diagnose and treat mood disorders. Couple that with the social stigma of mental illness and the lack of awareness that symptoms may suggest a treatable disorder. The result is either an underdiagnosed population at risk for the unfortunate sequelae of unchecked depression, such as alcoholism and suicide⁵, or a diagnosis of

depression in non-depressed patients, and subsequent inappropriate or no pharmacotherapy.⁶

A series of recent articles in the *Journal of Clinical Psychiatry* examined depression treatment guidelines from China, Japan, the Middle East, America and Europe.¹⁻⁴ The result was to outline a universal treatment algorithm for depression aimed at primary care physicians.⁷ To avoid duplicating previous guidelines, the consensus group decided to adapt Japan's existing treatment algorithm for depression⁸ and address specific issues as they pertain to the way care is provided from country to country.

Disseminated via professional education and more public awareness of depression, the international guidelines were structured into the following algorithm⁷:

- Periodically screen all patients for depression using measurement-based tools such as the 2-item Patient Health Questionnaire (PHQ-2)
- Use measurement-based tools to differentially diagnose depression and assess the level of depression severity, the presence of any co-occurring medical or psychiatric disorders, and the risk of suicide or harm to self or others

- Refer to a psychiatric specialist patients with bipolar disorder, psychotic symptoms, a substance use disorder, a risk of suicide or harm to self or others, severe comorbid disorders, or treatment resistance
- Educate patients about the disorder and its treatment and establish a positive relationship to improve treatment adherence as well as overall treatment outcomes
- Begin treatment with antidepressant monotherapy, such as a SSRI, serotonin-norepinephrine reuptake inhibitor (SNRI), or norepinephrine-dopamine reuptake inhibitor (NDRI), using established therapeutic doses; benzodiazepine monotherapy should be avoided
- Treat patients to remission and monitor patients' progress after remission has been achieved

To ensure that patients reach and maintain remission, clinicians should systematically use monitoring tools to assess patients' treatment response and adverse events at regular intervals. Many tools are available that are inexpensive, brief, easy to use, and available in many languages.

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Please consider the following question before proceeding with the article. Please find the answer for this question on page 9 of the article.

2. Where in the world would one most likely be prescribed a benzodiazepine for depression?

- A. France
- B. Middle East
- C. Urban China
- D. Japan

Can verbal abuse be linked to cancer?

According to the Centers of Disease Control and Prevention (CDC), people 18 to 24 years of age are 76% more likely to suffer from physical abuse than people 55 years of age and older ($P < .05$).¹ Furthermore, people who report having had adverse childhood experiences (ACEs) have a higher prevalence of adverse health outcomes, including cardiovascular disease, substance abuse, depression, diabetes, cancer, and premature mortality.

The CDC analyzed data from over 26,000 adults in 5 US states (Arkansas, Louisiana, New Mexico, Tennessee, and Washington) using the Behavioral Risk Factor Surveillance System (BRFSS). The results of the analysis revealed that approximately 60% of all respondents experienced at least one ACE, and over 8% reported 5 or more ACEs.

The most common ACEs were:

- Separated or divorced parents
- Verbal abuse
- Family member with depression or mental illness
- Witness of domestic violence
- Physical abuse
- Sexual abuse

Men and women reported similar incidences for each ACE, with the exception of sexual abuse – 17% for women, 7% for men; living with a mentally ill household member – 22% for women, 17% for men; and living with a substance-abusing family member – 31% for women, 28% for men ($P < .05$ for all comparisons).

For each ACE, a sharp decrease was observed in prevalence reported by adults aged ≥ 55 years ($P < .05$). For example, the occurrence of reported physical abuse was 17% among adults aged 18 to 24 years compared with 10% among those aged ≥ 55 years ($P < .05$). Non-Hispanic black respondents reported the lowest prevalence of each ACE category among all racial/ethnic groups ($P < .05$), with the exception of having had an incarcerated family member, parental separation or divorce, and/or witnessing domestic violence. Hispanics reported a higher prevalence than non-Hispanic whites of physical abuse, witnessing domestic violence, and having an incarcerated family member ($P < .05$ for all comparisons). Those respondents with less than a high school education compared with those with more than a high school education had a greater prevalence of physical abuse, an incarcerated family member, substance abuse, and separation/divorce ($P < .05$ for all comparisons). Among the 5 states, no significant variation was observed.

ACEs are associated with an increased risk of premature death.^{2,3} One epidemiologic study showed that people with 6 or more ACEs died an average of almost 20 years earlier than those without ACEs (60.6 years vs. 79.1 years). Average years of life lost per death were approximately 3 times greater among people with 6 or more ACEs than those with no ACEs (25.2 years vs. 9.2 years).³ The relationship of the number of ACEs theoretically parallels the cumulative exposure of the developing brain to the stress response with resulting impairment in multiple brain structures and functions.⁴

Says the CDC, the high prevalence of ACEs highlights the need for: 1) additional efforts at the state and local level to reduce and prevent child maltreatment and associated family dysfunction and 2) further development and dissemination of trauma-focused services to treat stress-related health outcomes associated with ACEs. Examples include trauma-focused cognitive-behavioral therapy, and trauma survivors' networks.

The BRFSS is the world's largest, on-going telephone health survey system, tracking health conditions and risk behaviors in the United States each year since 1984. Currently, data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the US Virgin Islands, and Guam. The authors state that the findings in this report were subject to at least 4 BRFSS-related limitations. First, the prevalence of ACEs might be underestimated because BRFSS excludes persons in institutions and hospitals, who might have experienced ACEs disproportionately. Second, BRFSS excludes persons who rely on cellular telephones as their only telephone service, thus underestimating the prevalence of ACEs among persons aged 18 to 35 years or those more likely to use only a cellular phone. Third, this study covered only 5 states, and the results may not be representative of the entire US adult population. Finally,

BRFSS response rates were low, which increases the risk for response bias.

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Case study: Woman with comorbid ADHD and bipolar disorder experiences treatment-emergent mania.

Tammy is a 34-year old high school math teacher with a prior history of major depression. Ten years ago, she was treated successfully with fluoxetine 20 mg taken once daily. After one year, she was successfully tapered off the medication, without recurrence of depressive symptoms.

On this date, Tammy presents for evaluation of ADHD and depression. She recounts a history of inattentiveness, difficulty in organizing and planning, procrastination, not completing tasks in the allotted time, restlessness, misplacing items, easy boredom, and impatience if having to wait. On the ASRS v 1.1 checklist, she scored significant inattentive symptoms (8/9) but her score on the hyperactive-impulsive subset (3/9) did not reach significance. Her impairments have been noted at school (disorganization) and at home (inattentiveness corroborated by husband).

Tammy's ADHD symptoms have been present since elementary school; reports cards from her early years document underperformance and daydreaming. Her symptoms worsened when she started teaching at age 22. Increased classroom demands have spotlighted her inadequacy in devising lesson plans and implementing them.

Approximately 9 months ago, her depression recurred. She reports vegetative symptoms of early and middle insomnia, decreased libido, passive suicidal ideation without intent or plan, somatic preoccupation, and ruminative thoughts

regarding failure. The intensity of her depression has worsened over the last few weeks, and, in fact, she has been unable to go to work for the last 5 days.

She denies substance abuse and manic symptoms. Her family history is notable for ADHD in a niece and nephew and for depression in her mother.

Please consider the following question before proceeding with the article. Please find the answer for this question on page 9 of the article.

3. Based on what you have read thus far, how would you begin to treat this patient with comorbid ADHD and bipolar disorder?
- A. Treat depression first
 - B. Treat ADHD first
 - C. Prescribe a drug that is indicated for both conditions
 - D. Adopt a wait-and-see approach

You make a diagnosis of ADHD inattentive subtype and major depression – recurrent, moderately severe. As Tammy's mood disorder is the most pressing diagnosis at this point because she has been unable to teach and her other depressive symptoms are increasing in intensity, you opt to treat the depression first. You prescribe venlafaxine as this may be the most rapidly acting agent, reserving treatment for ADHD until the depression lifts. You start her on venlafaxine XR 37.5 mg/day and refer her to cognitive behavioral therapy (CBT).

She returns to your office one week after the initiation of venlafaxine and you note no change in her symptoms, so the dose is increased to 75 mg/day. Four days after the start of the higher venlafaxine dose, you receive urgent phone calls from Tammy's husband and her CBT therapist. You hear reports that, over the last several days, the patient has stayed awake most of the evening, buying items she does not need from a television shopping network – elaborate kitchen items, clothing for animals they do not have, expensive costume jewelry and so on. She talks rapidly, announces she is quitting teaching to start her own education company, and, even later at night, goes out to local nightclubs – an unusual fixation for her. Her husband also reports she is sexually preoccupied and phones him at his office, begging him to come home so they can “fool around.”

Please consider the following question before proceeding with the article. Please find the answer for this question on page 9 of the article.

4. Based on what you have read thus far, what would be your next move?
- A. Increase venlafaxine XR to 150 mg a day
 - B. Discontinue her venlafaxine and start her on alprazolam to assuage her mania
 - C. Start her on lithium to stabilize her mood
 - D. Discontinue venlafaxine and see if mania subsides

You realize the patient has entered into a manic episode. You discontinue the venlafaxine and start treatment with lithium carbonate. The lithium is up-titrated to a dose of 1,200 mg/day. Tammy's lithium level is now 0.82 mEq/L (within therapeutic range of 0.8-1.2 mEq/L). Her manic symptoms have resolved and her mood is euthymic.

However, her ADHD symptoms persist.

Please consider the following question before proceeding with the article. Please find the answer for this question on page 9 of the article.

5. Her lithium has been titrated to a therapeutic level. Her mood is euthymic, yet her ADHD symptoms persist. What would be your next move?
- A. Discontinue her lithium and start her on a psychostimulant
 - B. Raise her lithium dose
 - C. Continue her lithium and start her on a psychostimulant
 - D. Start her on psychotherapy

After a discussion of the risks and benefits of treating ADHD with psychostimulants, Tammy agrees to start treatment with lisdexamfetamine, the pro-drug of

dexamphetamine which has a low potential for misuse. She is started on lisdexamfetamine 20 mg/day while her mood is being closely monitored by you, the patient, and her husband. She continues CBT and lithium.

After the lisdexamfetamine dose is increased to 40 mg/day, the patient and husband report substantial improvement in ADHD symptoms and ongoing euthymia. Since then, Tammy has returned to teaching and has been working on her organizational skills.

Take-home points from this case

- ADHD is often comorbid with a mood disorder
- The general rule is to initially treat the most impairing disorder, in this case depression.
- Bipolar disorder is highly comorbid with ADHD and often overlooked
- Manic symptoms often accompany bipolar depressive episodes but may easily be overlooked when they appear less prominent than depressive features¹
- Monitor for the “switch” phenomenon from depression into mania, especially in bipolar patients who are treated with venlafaxine which has a higher potential to switch mood polarity in patients with bipolar depression; this phenomenon is seen far less with bupropion or sertraline therapy²
- Once mania is stabilized, ADHD can be successfully treated.

Citations

1. Goldberg JF, Perlis RH, Bowden CL, et al. Manic symptoms during depressive episodes in 1,380 patients with bipolar disorder: findings from the STEP-BD. *Am J Psychiatry*. 2009;166(2):173-181.
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Journal reviews

ADHD non-stimulant drug may help midlife women with non-ADHD-associated attention and memory problems

Perimenopausal and postmenopausal women frequently report midlife onset of impairments of attention, organization, and short-term memory. A new study reveals that such women presenting with subjective cognitive difficulties may experience significant improvement in

memory and attention/concentration with atomoxetine (ATX) treatment.¹ ATX is a non-psychostimulant medication demonstrated to be effective in reducing similar cognitive impairments in adults with ADHD.

In this small study, 16 healthy women with complaints of memory and concentration difficulties, and without ADHD or other psychiatric disorders were enrolled in a double-blind, placebo-controlled crossover study of ATX 80 mg/day. Treatment arms were 6 weeks, separated by a 4-week washout. The Brown Attention Deficit Disorder Scale (BADDSS) was used to systematically obtain self-reporting of perceived cognitive difficulties in executive function. Participants also underwent neuropsychological testing, behavioral assessments, and vital signs monitoring.

The results showed that the mean baseline BADDSS scores were 37.9 for all 16 participants and 42.3 for the 12 who completed both arms of the study. Total BADDSS scores decreased significantly from baseline during ATX treatment but not during placebo treatment. ATX treatment was superior to placebo in reducing the BADDSS working memory cluster score, whereas a trend was observed for ATX superiority in the BADDSS attention/concentration cluster score. ATX did not differ from placebo with respect to effects on neuropsychological tests, behavioral assessments, or cardiac vital signs.

Alternatives to antidepressants in treating acute bipolar depression

A basic question in treating bipolar disorder is whether or not antidepressants are safe and effective for use in bipolar depressive episodes. Without a concurrent mood stabilizer, antidepressant monotherapy is not recommended due to concern about antidepressant-induced mood-switching. However, more research is warranted. A recent paper by Nierenberg reviews studies performed on bipolar patients who were treated with antidepressants and addressed the findings by others that depressed patients who had some manic symptoms (i.e., mixed state) had no effect in recovery time and experienced an exacerbation of mania at follow-up.²

The author here concludes that:

- Insufficient evidence exists to support the efficacy of antidepressants for treating bipolar depression
- Evidence supports dual therapy with olanzapine/fluoxetine or quetiapine monotherapy for the treatment of acute bipolar major depressive episodes, with some evidence suggesting that lamotrigine or modafinil augmentation may be helpful. Again, additional research is needed

- Structured psychosocial interventions used in conjunction with pharmacotherapy improve recovery rates in bipolar depression

Efforts to enhance primary care ADHD diagnostic and treatment skills are succeeding

ADHD is one of the most common neurobiological disorders of childhood but is predominately treated in the primary care setting or by pediatricians because the high prevalence rate exceeds the capacity of available mental health care. However, concerns about the quality of psychiatric care in the primary care setting have arisen over the years, including limited use of diagnostic instruments, and difficulty obtaining behavioral information from the school.

To address these concerns, the American Academy of Pediatrics (AAP) developed ADHD guidelines in 2000, which included CME exercises and a tool-kit. Since then, almost 400,000 tool kits have been distributed. What is the result? As published in a recent paper by Wolraich and colleagues, the percentage of health care providers and school workers who routinely use formal diagnostic criteria rose from 67% in 1999 to 81% when the study was published.³ Additional findings revealed that treatment with stimulant medications is used more extensively by pediatricians, and more pediatricians reported use of a second stimulant if the first did not work. Even more reported almost always providing parent training, although the estimated number remained only about a quarter of the total. Despite room for further improvement, the take-away message is that the behaviors of primary care practitioners have moved in the direction of greater adherence with the recommended AAP ADHD guidelines, and there has been a positive response to, and a greater use of, the materials developed to enhance practice.

Response times may qualify as a measure of inattentiveness in adult ADHD

A new study suggests that response time (RT) is linked to distractibility among adults with ADHD and supports the use of RT as a valid measure of inattention in ADHD.⁴ RTSD is assumed to reflect attentional lapses and distractibility, though evidence for the validity of this connection has, until now, been scant. This study assessed whether RT is an indicator of inattention by comparing it on the stop-signal task (SST) with performance on the delayed oculomotor response (DOR) task, a measure of distractibility. Participants included 30 adults with ADHD and 28 controls. Participants completed the SST and the DOR task, which measured subjects' ability to maintain attention and avoid distraction by inhibiting reflexive saccades toward distractors. On the SST, the ADHD group was slower to inhibit than were controls, indicating poorer

inhibitory control in ADHD. The ADHD group also displayed slower reaction times and more omission errors. On the DOR task, the ADHD group displayed more premature saccades (i.e., greater distractibility) than did controls. Greater variability in RT was associated with increased distraction on the DOR task, but only in ADHD participants. Increased intraindividual variability in RT has been observed in ADHD and has often been used as a measure of inattention.

Citations:

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2. Nierenberg AA. Alternatives to antidepressants in treating acute bipolar depression. *J Clin Psychiatry*. 2011;72(1):e03.
3. Wolraich ML, Bard DE, Stein MT, Rushton JL, O'Connor KG. Pediatricians' attitudes and practices on ADHD before and after the development of ADHD pediatric practice guidelines. *J Atten Disord*. 2010;13(6):563-572.
4. Adams ZW, Roberts WM, Milich R, Fillmore MT. Does response variability predict distractibility among adults with attention-deficit/hyperactivity disorder? *Psychol Assess*. 2011 Mar 28. [Epub ahead of print].

ANSWERS TO THE ARTICLE QUESTIONS:

1. D – Chronic hyperactivity, impulsiveness, and attention problems with episodic exacerbation would be consistent with comorbid pediatric BPD superimposed on ADHD.
2. B - In many Middle Eastern countries, depression is treated with benzodiazepines, rather than antidepressants.
3. A – In this patient's case, her depressive symptoms are more debilitating than her inattentiveness, and therefore, she needs an antidepressant first and foremost.
4. C – This patient has symptoms of bipolar disorder, for which lithium is indicated.
5. C – The lithium does not control ADHD. She would benefit from a psychostimulant or non-stimulant indicated to control ADHD symptoms.