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IN THIS ISSUE

Major Depression

Treating Depressed Adolescents Who Have Attempted Suicide: Results of the TASA Trial

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Dr. Morris has disclosed that he has no relevant relationship or financial interest in any commercial company pertaining to this educational activity.

Historically, research into the effectiveness of antidepressants for depressed youths has been unimpressive. In the 1980s, Joaquim Puig-Antich studied the then-popular tricyclic antidepressants and found no evidence to support their effectiveness (Puig-Antich J, *Arch Gen Psych* 1987;44(1):81–89). To make matters worse for tricyclics, in the 1990s several studies hinted that these meds can cause sudden death in children (Popper CW et al., *J Child Adolesc Psychopharmacol* 1990;1(2):125–132). While the true level of hazard remains controversial, these reports led most child psychiatrists to abandon tricyclics in favor of SSRIs.

The history of SSRI use in children has been fraught with its own series of disappointments and controversies. In the early 2000s, controversy brewed about bias in pharmaceutical industry sponsored studies of SSRIs. The suppression of information regarding the increased risk for suicidal behavior in children treated with paroxetine (Paxil) (see Kondro W, *Can Med Assoc J* 2004;170(5):783) culminated in a black box warning for SSRIs in 2003, an FDA action that some have argued ultimately led to an increase in previously declining rates of suicide among youth in the U.S. In April 2004, *The Lancet* published a meta-analysis of studies evaluating SSRIs versus placebo in participants five to 18 years old. Taking into account previously suppressed studies, the authors posited that "risks could outweigh benefits of these drugs (except fluoxetine)" (Whittington CJ, et al., *The Lancet* 2004; 363(9418);1341–1345).

In this context, in 2004 child psychiatrists welcomed the non industry funded, and thus presumably unbiased, NIMH study from the Treatment for Adolescents with Depression Study (TADS) team, evaluating the efficacy of fluoxetine (Prozac) and cognitive behavioral therapy (CBT) in the treatment of depressed adolescents. In this large, placebo-controlled study, 439 depressed adolescents were randomly assigned to one of four treatment arms: fluoxetine alone, CBT alone, a combination of CBT and fluoxetine, or placebo. After 12 weeks, the rate of response to fluoxetine with CBT was 71 percent; fluoxetine alone 61 percent; CBT alone 43 percent; and placebo alone 35 percent (March JS et al., *JAMA* 2004;292(7):807–820). While the study appeared to endorse the effectiveness of fluoxetine, it nevertheless had some limitations; for example, adolescents who had previously attempted suicide were excluded.

For this reason, the publication of three papers in the October 2009 issue of *JAACAP* (Vol. 48, Issue 10) from the NIMH funded Treatment of Adolescent Suicide Attempters (TASA) trial is significant. Indeed, the editorial by Garry Walter, MD, PhD, in the same issue borrows the language of the opera *Turandot* in its title, proclaiming: "Nessun Dorma ('None Shall Sleep')... At Least Not Before

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Learning objectives for this issue: 1. Explain the findings of the Treatment of Adolescent Suicide Attempters (TASA) trial. **2.** Describe how number needed to treat (NNT) can indicate the effectiveness of antidepressants in children and other well-known medical interventions. **3.** Assess depression in your adolescent patients. **4.** Understand the most current findings in the literature regarding psychiatric treatment. This CME/CE activity is intended for psychiatrists, psychiatric nurses, psychologists and other health care professionals with an interest in the diagnosis and treatment of psychiatric disorders.

Treating Depressed Adolescents Who Have Attempted Suicide: Results of the TASA Trial

We Digest Treatment of Adolescent Suicide Attempters (TASA)."

TASA was a six-month, open label trial (meaning both researchers and participants knew who got which treatment) that included 126 patients ages 12 to 18 with unipolar depression who had made a suicide attempt within 90 days of intake. Exclusion criteria included bipolar disorder, psychotic symptoms, substance dependence, and pervasive developmental disorder. Subjects were randomly assigned to one of three conditions: CBT, medication management, or the combination. The medication treatment was derived from the Texas Medication Algorithm, which suggests that clinicians begin by prescribing fluoxetine, citalopram (Celexa), or sertraline (Zoloft); followed in cases of nonresponse by an alternate SSRI; followed, if necessary, by an alternate class—venlafaxine (Effexor), duloxetine (Cymbalta), mirtazapine (Remeron), or bupropion (Wellbutrin). Although the study was initially designed as a three arm randomized trial, recruitment difficulties led to a shift, allowing participants either to be randomized (n=22), or to choose their preferred treatment (n=102). (Two participants dropped out before treatment assignments.) Ninety-three participants were in the combination therapy arm of the trial, while 17 had psychotherapy alone, and 14 had medication managment.

The first of the TASA articles addresses the prediction of suicidal events. Of the 124 enrolled participants, 24 experienced a suicidal event at some point during the six-month trial. While there were no completed suicides during the study, one completed suicide occurred after the study ended. There was no relationship between treatment assignment and suicide events. Risk factors for suicide attempts during the trial included higher self-rated depression, suicidal ideation, higher family income, greater number of previous suicide attempts, lower maximum lethality of previous attempt, history of sexual abuse and lower family cohesion (Brent DA, *JAACAP* 2009;48(10):987–996).

The second article looks at the course of depression during the treatment of these adolescents. The remission rates were 32 percent at week 12, and 50 percent at week 24. While these remission rates are similar to those reported in the TADS study, the two studies are not strictly comparable because the TADS study had a double blind design, whereas the TASA study did not. Typically, response and remission rates are higher in open label studies. Nonetheless, the authors note that their remission figures

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are consistent both with a previous smaller study in adolescents and with the adult data from the Sequenced Treatment Alternatives to Relieve Depression study (STAR*D) (Vitiello B et al., *JAACAP* 2009; 48(10):997–1004).

The third of the three articles describes the manual based CBT-SP (cognitive behavioral therapy for suicide prevention) program that was used in the TASA study. The article lays out the theoretical background of the technique, with details about how to do a "chain analysis" of suicide attempts, safety planning, psychoeducation with family, addressing reasons for living and building hope, and other practical aspects of CBT-SP. The clarity of this section gives the non CBT trained clinician a good picture of this mode of treatment (Stanley B et al., *JAACAP* 2009;48(10):1005–1013).

CCPR's Verdict: The results of the TASA trial are heartening, and imply that depressed adolescents with prior suicide attempts can do well with a combination of an SSRI and a specific kind of CBT oriented toward suicide prevention.

Editor's Perspective: Do Antidepressants Work in Kids?

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Dr. Fisher has disclosed that she has no relevant relationship or financial interest in any commercial company pertaining to this educational activity.

The extent to which antidepressants are effective for pediatric depression continues to stir controversy, as discussed in this issue of *CCPR.* Parents, the media, and even our young patients themselves sometimes tell us that our medications don't work and may well be dangerous. And yet, as clinicians, we know of many children who have apparently benefited from using them. So we continue to prescribe, if sometimes with ambivalence or ill-conscience. This article puts the question of antidepressant efficacy in some perspective.

What does it means to say that a medication "works"? An intuitively understandable yet scientifically respectable answer is to use the Number Needed to Treat (NNT). (For a good explanation of the concept, see Citrome L, *Acta Psychiatr Scand* 2008;117:412–419.) NNT is the number of patients who must take the drug (or undergo the studied intervention) to obtain one more favorable outcome than the alternative treatment.

For placebo-controlled studies, NNT can be calculated by taking the reciprocal of the absolute risk—that is, the reciprocal of the percentage of people who got better when treated, minus the percentage of people who got better with placebo. For example, the TADS study found that after 12 weeks of treatment, 60.6 percent of adolescents remitted with fluoxetine and 34.8 percent remitted with placebo (March J et al., *JAMA* 2004;292(7):807–820). The NNT would be the reciprocal of 0.606 minus 0.348, or 1/0.258=3.87, which rounds up to 4. This means that for every four patients treated with fluoxetine, one more would respond than in the placebo group.

A relatively effective drug has a low NNT, while a relatively ineffective drug has a high NNT. However, it may well be worth treating many patients, even if just a few benefit, when the cost of the medication is low and the risks are small. For example, the NNT of phototherapy for newborn girls with jaundice is 222 (333 for newborn boys), but the risks of photo-

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therapy are very low (Newman T et al., *Pediatrics* 2009;123(5):1352–1359). Consequently, phototherapy is recommended for all newborns with jaundice even though only a few will avoid a blood transfusion they would have otherwise required.

Number Needed to Harm (NNH) is an analogous statistic that measures the risks of an intervention. It is calculated in exactly the same way as NNT (one over the absolute risk), but the outcome used is different. Instead of a beneficial outcome (eg, remission from depression), it is based on an undesired outcome, such as suicidal ideation. The NNH is the number of patients who have to take the drug to have one more suffer the bad outcome than if they had not been treated. The ideal drug or intervention has a low NNT and a very high NNH.

The FDA meta-analysis that generated the black box warning for antidepressants in children showed an absolute risk of one percent for serious suicidal ideation or attempt and two percent for a broader definition of suicidal ideation. This means that for every 100 patients treated, one to two of them are likely to experience suicidality that they would not have without drug treatment. The NNH is, therefore, 100 for serious suicidality and 50 (the reciprocal of two percent) for broad suicidality.

There have been published studies of antidepressant medications that showed no benefit over placebo, but the literature is not entirely devoid of studies showing a benefit. Furthermore, it is hard to know what to make of the negative studies—are they insufficiently powered to detect a difference? Or perhaps the placebo effect is so high as to be insurmountable, as posited by Bridge et al., who noted that the placebo response in 12 antidepressant studies examined averaged 44 to 58 percent (Bridge JA et al., *Am J Psychiatry* 2009;166(1):1–3). The clinical trials registry (found at http://clinicaltrials.gov), which addresses the problem of unpublished negative studies, will eventually allow better meta-analyses by making both negative and positive findings more available.

In the meantime, it's important to look at the data we do have in a larger context. When compared with medications in other medical specialties, you may be surprised at how the antidepressants, even when used with adolescents and children, stack up.

In the accompanying chart, I have listed the NNTs of some antidepressants for comparison with some common medical interventions. For example, statins: The NNT (for the outcome of prevention of a cardiovascular event) is 37 for women and 33 for men. These numbers appear much less "impressive" than the lower NNTs for antidepressants. And yet, there is little question among physicians or patients that this represents enough of a benefit to warrant treatment.

What about the statins' NNH? The NNH for the development of cataracts due to statins is 33 for women and 52 for men. These numbers are comparable or lower than the NNH of 50 to 100 for suicidal events in the FDA database. Furthermore, there were no episodes of actual suicide reported.

How about penicillin for strep throat? The American Heart Association recommends the treatment of strep to decrease the risk of rheumatic heart disease, even though throat strep resolves without treatment in most cases. Check the table for some other surprising statistics.

The bottom line? While we would love to see more impressive remission numbers for antidepressants in children, let's keep in mind that the NNTs and NNHs of these meds are in many cases more impressive than the comparable numbers for nonpsychiatric medications whose value we rarely question.

Number Needed to Treat Among Antidepressants and Common Medical Interventions

Antidepressant	Number Needed to Treat (NNT)	Outcome Measure	Reference
Fluoxetine (10 mg to 40 mg)	4	Improvement in CDRS-R and CGI	March J et al., *JAMA* 2004;292(7):807-820 (TADS)
Paroxetine (20 mg to 40 mg)	6	HAM-D score ≤ 8	Keller MB et al., *JAACAP* 2001; 40(7):762-772*
Imipramine (200 mg to 300 mg)	25	HAM-D score ≤ 8	Keller, ibid
Sertraline (50 mg to 200 mg)	10	Improvement in CDRS-R and CGI-I	Wagner K et al., *JAMA* 2003;290(8):1033-1041
Citalopram (20 mg to 40 mg)	8	CDRS-R (no significant difference in CGI-I)	Wagner K et al., *Am J Psychiatry* 2004;161(6):1079-1083
Medical Intervention	**NNT**	**Outcome**	**Reference**
Statins for adults at *high risk* for cardiovascular disease	35	Prevention of cardiovascular events	Hippisley-Cox J, Coupland C, *BMJ* 2010;340:c2197-c2197
Penicillin for acute strep pharyngitis	35	Prevention of rheumatic fever	Catanzaro et al., *Am J Med* 1954;17(6):749-756
Phototherapy for newborns with jaundice	281	Prevention of blood transfusion	Newman et al., *Pediatrics* 2009;123(5):1352-1359
Tissue Plasminogen Activator for stroke (in adults, within 3 to 4.5 hours of symptoms)	7	Improvement on the Rankin scale of stroke symptoms	Saver et al., *Stroke* 2009;40(7):2433-2437

Number Needed to Harm Among Antidepressants and Common Medical Interventions

Intervention	Number Needed to Harm (NNH)	Outcome	Reference
SSRIs	50	Suicidality	Hammad et al., *Arch Gen Psychiatry* 2006;63(3):332-339
Statins, as above	42	Cataract	Hippisley-Cox, op.cit
Penicillin (as for strep)	20	Self-reported allergy	Macy E, Poon K-Y T, *Am J Med* 2009;122(8):778.e1-778.e7
Tissue Plasminogen activator, as above	37	Hemorrhagic event	Saver, op.cit

*To be fair, although Keller found a statistically significant difference, several other studies of paroxetine have been negative, and the consensus is against both paroxetine and imipramine being effective in kids. This table is not meant to dismiss the controversy in the field regarding antidepressants, but to demonstrate a means of considering the data across studies and across medical specialties. Note: I have glossed over certain statistical sophistications, such as the difference between "persons" and "person-years" and also that I have rounded to whole persons, as is conventional.

CDRS-R: Children's depression rating scale-revised
CGI: Clinical global impression scale
CGI-I: Clinical global impression improvement scale
HAM-D: Hamilton depression scale

Q&A With the Expert

Expert Interview

Assessing Depression in Adolescents

Nancy Rappaport, MD

Director of School Programs, Cambridge Health Alliance
Assistant Professor of Psychiatry, Harvard Medical School, Cambridge, MA
Author of In Her Wake: A Child Psychiatrist Explores the Mystery of Her Mother's Suicide

Dr. Rappaport has disclosed that she has no relevant relationship or financial interest in any commercial company pertaining to this educational activity.

CCPR: Depression in teenagers can present quite differently from both adults and younger kids. Can you help us to understand how to go about diagnosing depression in teens?

Dr. Rappaport: I look for functional impairment when diagnosing depression in a teenager. So if I have a kid who has done relatively well in school and suddenly his or her grades are plummeting, that is a big red flag. Or if a teenager is showing up at the school nurse for vague somatic complaints, such as repetitive headaches that have already been evaluated by a pediatrician, I wonder if this teen is having trouble putting into words how bad he or she feels. Another clue is when a third party, like a guidance counselor or a school social worker, comes to me with a concern about some change in a teenager's behavior. Sometimes a teacher will become alarmed—for example, a teenager who is writing about Hamlet and interprets the line "to be or not to be" in a way that leads to a dissertation on his or her own existential questions.

CCPR: In adult psychiatry, we are used to evaluating depression directly by asking the patient questions like, "Do you feel depressed? Have you been sleeping? Have you been able to enjoy anything?" How should we approach teenagers differently?

Dr. Rappaport: I find that if you ask kids if they are depressed, they may be insulted. I often tell my child psychiatry residents: "Don't ask kids if they are 'depressed'—use any other word." I tend to have more success when I ask if they feel "irritable." They can admit to being irritable and being angry, but they are less likely to admit to feeling down and depressed. And in fact, that is a common way that depressed kids will present—they might be fighting with their parents; or they might be getting suspensions and detentions at school. In terms of assessing for anhedonia, I try to find something that gets that particular teen a little bit animated. Does he have a favorite music group? Does he have an extracurricular activity that he loves to do? A completely flat and restricted response is often his way of telling you he doesn't have any interests.

CCPR: But how do you know whether a teen's flat responses don't just reflect discomfort or resentment with having to see a psychiatrist?

Dr. Rappaport: To avoid that problem, I always tell teenagers at the outset that they are in charge. I'll say something like, "If after talking to me for a while you think I am a complete dud, fire me." They always seem a little bit surprised that I have put them in the driver's seat. I will also make a joke about how seeing a psychiatrist is about as much fun as going to the orthodontist, and maybe even *more* painful. I tell them, "I will be asking you a lot of difficult questions, but I am doing this to figure things out, to make things easier for you."

CCPR: How do you assess sleep in teenagers?

Dr. Rappaport: Sleep is a really hard one, because kids normally sleep an enormous amount—up to 14 hours. So I don't focus on how much someone is sleeping, rather I look at how sleep habits affect his or her functioning. A key question is whether a teenager is sleeping so much that he or she is not able to get to school. One modern complication is the computer; these kids might be on Facebook until three in the morning, so you have to tease these kinds of issues out during the interview.

CCPR: What about assessing suicidality in teens?

Dr. Rappaport: I find it crucial to ask if any of the teen's peers have committed suicide or have felt suicidal. Also, I ask if friends are worried about *him* or *her* being suicidal. And of course a key question is whether there is access to guns. We know from the literature that teens are two times more likely to kill themselves if there is a gun in the house (Brent DA et al., *N Engl J Med* 2002;347(9):667–671).

CCPR: Are there any other clues to suicidality that you have found useful over your years of practicing?

Dr. Rappaport: I have learned through hard experience that you need to trust your own gut-level response. For example, a patient was telling me about wanting to hang herself, and said that the reason she wasn't going to do it is that she didn't think the knot would hold. I had this enormously ominous feeling when she said that. And yet I didn't end up hospitalizing her at that point because she assured me that she wasn't suicidal. But the day before her next scheduled appointment, she took a significant aspirin overdose. This is not the kind of thing you can study empirically, but if you have a sense of dread when a kid is talking about suicide, you need to act on that.

CCPR: How do you evaluate teenagers who say they are "moody"?

Dr. Rappaport: This is certainly a situation where clinicians can get tripped up. Teenagers are moody by nature, so it is important to talk to the parents and ask them to describe concretely when their child is moody, how long it lasts, and if their last moody episode was similar to the current one. Some degree of moodiness can be a normal part of development, but if a teenager is having two-hour stints of crying and shutting himself in the room, that is different. Sometimes the parents just see this behavior as their child having a grumpy personality, but as clinicians, we have to be very astute in order to draw out behaviors that may in fact reflect a biological depression.

CCPR: What about substance abuse?

Dr. Rappaport: There is an ongoing debate about whether substance abuse causes depression in teenagers or whether teens use substances to treat an undiagnosed depression. Regardless, it is important information, and getting it is tough, because teenagers do not want to tell you that they drink massive amounts of alcohol during the weekend or smoke a lot of marijuana. But there is a clear correlation: 23 percent of teens with depression use alcohol weekly (Goldstein BI et al., *JAACPA* 2009;48(12):1182–1192).

CCPR: How are learning disorders related to depression?

Dr. Rappaport: I wrote about this issue in a letter to the editor in the *New England Journal of Medicine* (Rappaport N, *N Eng J Med* 2003;348(5):473–474). The typical situation is a kid who has a reading disorder that wasn't diagnosed because he is bright and was very determined to succeed in elementary school. But then he gets to high school and the academic challenges increase, and this can lead to depression. I often screen for learning issues by asking things like, "What is it like for you to read a book? How long does it take for you to do assignments?"

CCPR: Child psychiatrists are in short supply, and in many cases, they handle the medications and refer to colleagues for therapy. Do you have any suggestions for how to work effectively in the split treatment model?

Dr. Rappaport: In order to successfully split treatment, you have to trust the judgment of the therapist; especially that he or she knows when to contact you. The worst case scenario is when a patient shares suicidal thoughts with a therapist, who determines that the kid is not currently suicidal and does not inform the psychiatrist. That puts the psychiatrist in an incredibly vulnerable situation, because he or she may make inappropriate decisions because of a lack of crucial information.

CCPR: Are there any more common problems that arise?

Dr. Rappaport: Noncompliance with medication is a huge issue with teenagers, and you can easily be duped. You see a child or a teenager who is not responding to a medication and make all these fancy changes, then come to find out, he or she was not taking the medication at all. A savvy therapist might have heard about the patient's ambivalence about medication. To try to prevent this problem, I often say to the teenager, "I am not getting a kickback from the drug company. I don't have any financial investment in you taking the medication, but it's a waste of our time if you don't take your meds and you don't tell me. If you don't want to take it, just let me know."

CCPR: What other information do therapists often learn that is important for the psychiatrist to know?

Dr. Rappaport: They may know more about the family dynamics and changes in family situations that could impact treatment. They hear more about boyfriend/girlfriend issues, dating violence, pregnancy, birth control, and so on. You may eventually find out about it, but they may know it first. When I am at a school-based health center, we have a structured arrangement where once a month we sit down as a team and get information, which is a luxury of being in a clinic and being able to do coordinated care.

CCPR: What do you tell parents about the possible side effects of worsening suicidality on antidepressants?

Dr. Rappaport: I try to share the responsibility with parents and talk through the numbers. I tell them that one in 140 kids can have a suicidal response to an antidepressant, and I describe the studies. I refer them to two articles that I have written about the black box warning and how to interpret it. [**Ed note: See the sidebar for information on these articles.**]

CCPR: Thank you, Dr. Rappaport.

What To Ask?

Some key questions to help you ascertain depression in your adolescent patients

Have you been feeling irritable or angry?
Have you been getting in more fights than usual with your parents or siblings?
Do you have such a hard time waking up in the morning that you're often late for school?
How are you doing with you schoolwork? How long does it take you to get through an assignment?
Do you have any friends who have thought about suicide?
Have your friends been worried that you might be suicidal?

Resources for Understanding the FDA's Black Box Warning

Rappaport N et al., *J Pediatr* 2006; 148:567–568. View it online at http://bit.ly/9wq19s

Rappaport N et al., *J Pediatr* 2005; 147(6):719–720 View it online at http://bit.ly/a5av4w

Visit www.nancyrappaport.com/publications for more information on treating depression in adolescents

Book Reviews

Review by Caroline Fisher, MD, PhD
Editor-in-Chief, *CCPR*

Psychotropic Drug Prescriber's Survival Guide: Ethical Mental Health Treatment in the Age of Big Pharma

Amelia N. Dubovsky and Stephen L. Dubovsky
W. W. Norton, New York, 2007
187 pages $27.50

If you enjoyed the article on antidepressants and Numbers Needed to Treat, and would like to learn more about how to interpret pharmaceutical studies, this is an excellent, concise, and readable text. It does a good job showing you how to look for the "spin" in an article, and how to sort the facts from the hype.

Review by Jonathan Jacobson, MD
Pediatric Behavioral Health, West Boylston, MA

Treating Child & Adolescent Mental Illness, A Practical All-in-One Guide

Jess P. Shatkin, MD, MPH
W.W. Norton & Company, 2009
392 pages $35

Written as a "comprehensive but user-friendly guide," this book provides the "basics" of psychopathology and practical information on medication, psychotherapy, and psychosocial interventions. Catering to a wide audience that includes primary-care physicians, psychologists, therapists, school personnel, and parents, Dr. Shatkin writes in a clear, accessible manner, balancing well-written overviews with a useful degree of detail. Ed Note: Dr. Shatkin is a member of editorial board for *The Carlat Child Psychiatry Report.*

Research Updates IN PSYCHIATRY

ADHD

What is the Minimum Effective Dose of OROS Methylphenidate for Adolescents?

Dosing stimulants is never easy. There are various rules of thumb—for example, 0.5 mg/kg for amphetamine preparations and 1 mg/kg for methylphenidate preparations—but these have not been empirically validated. Ortho-McNeil Janssen funded a recent study designed to define the optimal dose of their medication OROS methylphenidate (Concerta, a controlled release MPH that lasts for 10 to 12 hours) for adolescents.

Two hundred and twenty adolescents ages 13 to 18 with ADHD were enrolled in a four-week, open label trial examining escalating dose-titration of OROS MPH to determine minimum dose required for response (defined as a 30% or greater reduction in baseline ADHD Rating Scale score and a rating of "good" or "excellent" on the Global Assessment of Effectiveness Scale).

All participants started with 18 mg of OROS for one week. Nonresponders had their doses raised in weekly increments (from 18 mg to 36 mg to 54 mg to 72 mg) until a minimal response was achieved, or they reached the maximum dose for this trial (72 mg).

About two thirds (65.4%) of patients required a dose of 54 mg or higher to meet criterion for improvement (27% responded to 54 mg dose; another 38% needed 72 mg to reach response). Eleven patients did not meet the requirements for improvement even at the 72 mg dose. Was there any way to predict which kids would need higher doses? Those with more severe ADHD symptoms at onset required higher doses, but neither age nor height nor weight were significant factors in predicting effective dose.

As expected, adolescents required a higher absolute dose of OROS than children to achieve results. However, when the dose is adjusted for weight, adolescents actually need a slightly lower dose than children (0.84 mg/kg, compared to 1.1 mg/kg for younger kids).

Fifty-seven percent of participants reported one or more drug related adverse events. The most common of these were anorexia (ranging from 6% to 10% dependent on dose) and headache (ranging from 9% to 11% depending dose) (Newcorn JH et al., *J Child Adolesc Psychopharm* 2010;20(3):187–196).

CCPR's Take: While this study was clearly designed to showcase the manufacturer's product, it is still a useful study clinically, because OROS MPH is used by so many psychiatrists and dosing guidance is always welcome. The authors conclude that a target dose of 1 mg/kg is reasonable for most adolescents.

INSOMNIA

Trends in Medication Use for Children with Insomnia

Children with psychiatric disorders often present with insomnia in addition to their primary symptoms. How should we treat insomnia in children? Every clinician seems to have his or her favorite go-to hypnotic. In an effort to determine which hypnotics American child psychiatrists favor, a group of researchers surveyed members of the American Academy of Child and Adolescent Psychiatry.

A modified version of the Pediatric Drug Survey instrument (created by researchers to study prescribing practices among pediatricians) was mailed to 6,018 child psychiatrists; 1,273 responded. The questionnaire was designed to collect data on four areas: 1) prevalence of problem insomnia among patients; 2) medication strategies for managing insomnia in four different clinical groups: mental retardation/developmental delay (MD/DD) or autism, ADHD, anxiety disorder (AD), or mood disorder (MD); 3) reasons for and against using medication to treat insomnia; and 4) demographic information about the respondents (ie, age, gender, academic affiliation). In this study, insomnia was defined as bedtime resistance, and/or significant difficulty falling and/or staying asleep.

The average psychiatrists said that over a typical one month period, they treat 28% of their pediatric patients with some type of insomnia medication. They were most likely to treat insomnia in older patients (32% of patients ages 13 to 18) and least likely to treat their youngest patients (3.5% of those under two years old).

Psychiatrists' choice of medication varied based on the comorbid psychiatric condition. For patients with insomnia associated with ADHD, alpha agonists (such as clonidine) were the most popular medications, prescribed by 81% of psychiatrists surveyed. For insomnia in anxiety, mood, and developmental disorders, trazodone and sedating antidepressants were by far the most popular, prescribed by 65 to 85% of psychiatrists, depending on the disorder.

Here is the overall total percentage of psychiatrists who reported prescribing each medications group: Alpha agonists, 87%; trazodone, 85.8%; sedating antidepressants, 83.2%; atypical antipsychotics, 68.9%; SSRIs, 66.6%; benzodiazapines, 54.5%; short acting hypnotics, 50.2%; anticonvulsants, 49.1%; and tricyclics, 48.3%. Regarding over-the-counter medications, antihistamines such as Benadryl were commonly recommended for all disorders (used by nearly 70% of psychiatrists) followed by melatonin, which was a distant second (about 40%).

Interestingly, physicians who had the most years in practice were the least likely to report prescribing medication to treat insomnia in most cases, as were those with academic appointments at medical schools. Whether this reflects the wisdom to know when not to prescribe, or, alter-

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CME Post-Test

To earn CME or CE credit, you must read the articles and log on to www.TheCarlatChildReport.com to take the post-test. Please see the pre-test listed below to prepare for this month's post–test. Learning objectives are noted on page 1. You must answer at least four questions correctly to earn credit. You will be given two attempts to pass the test. Tests must be taken by August 31, 2011.

As a subscriber to *CCPR,* you already have a username and password to log on www.TheCarlatChildReport.com. To obtain your username and password, please email CME@thecarlatreport.com or call 978-499-0583.

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Below are the questions for this issue's CME post-test. This page is intended as a study guide. Please complete the test online at www.TheCarlatReport.com. Note: Learning objectives are listed on page 1.

1. In the Brent article examining the prediction of suicidal events according to the TASA trial, what was the relationship between treatment assignment and suicide events (Learning Objective #1)?
   - [ ] a. There was no relationship between treatment assignment and suicide events.
   - [ ] b. Participants in the cognitive behavioral therapy group had a greater risk of suicide.
   - [ ] c. Participants in the medication management group had a greater risk of suicide.
   - [ ] d. Participants in the combined treatment group had a greater risk of suicide.

2. Number Needed to Treat (NNT) is the number of patients who must take a drug (or undergo a studied intervention) to obtain one more favorable outcome than the alternative treatment (L.O. #2).
   - [ ] a. True [ ] b. False

3. How does the NNT for statins for adults at high risk for cardiovascular events compare to the NNT for fluoxetine (Prozac) for depression (L.O. #2)?
   - [ ] a. The NNT for statins is lower than the NNT for Prozac
   - [ ] b. The NNT for statins is higher than the NNT for Prozac
   - [ ] c. The NNT for statins is the same as the NNT for Prozac
   - [ ] d. There has been no research on the NNT for Prozac

4. According to Dr. Rappaport, the literature shows that teens are two times more likely to kill themselves if there is a gun in the house (L.O. #3).
   - [ ] a. True [ ] b. False

5. In the Newcorn study, how many patients required a dose 54 mg or higher of OROS MPH to meet criterion for improvement (L.O. #4)?
   - [ ] a. 9% [ ] b. 30%
   - [ ] c. 65.4% [ ] d. 75.4%

PLEASE NOTE: WE CAN AWARD CME CREDIT ONLY TO PAID SUBSCRIBERS

First Name Last Name Degree (MD, PhD, NP, etc.)

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Your evaluation of this CME/CE activity (ie, this issue) will help guide future planning. Please respond to the following questions:

1. Did the content of this activity meet the stated learning objectives? L.O.#1: [ ] Yes [ ] No L.O.#2: [ ] Yes [ ] No L.O.#3: [ ] Yes [ ] No L.O.#4: [ ] Yes [ ] No
2. On a scale of 1 to 5, with 5 being the highest, how do you rank the overall quality of this educational activity? [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1
3. As a result of meeting the learning objectives of this educational activity, will you be changing your practice performance in a manner that improves your patient care? Please explain. [ ] Yes [ ] No

4. Did you perceive any evidence of bias for or against any commercial products? Please explain. [ ] Yes [ ] No

5. How long did it take you to complete this CME/CE activity? ___ hour(s) ___ minutes
6. **Important for our planning:** Please state one or two topics that you would like to see addressed in future issues.

Continued from Page 6

natively, a refusal to keep up with new trends is not addressed by the study (Owens JA et al., *Sleep Med* 2010; online ahead of print).

CCPR's Take: The study was funded by Sanofi Aventis, the makers of Ambien and Ambien CR, and some apparent commercial bias came through in the discussion section, in which the researchers expressed dismay that so much trazodone is being prescribed and that non-benzodiazepines are relatively underprescribed. Nonetheless, this data is useful, if only to show us what the current standard of pediatric insomnia treatment seems to be. When considering prescribing sleep aids to children and adolescents with insomnia, we should remember to ask about computer and television use and consumption of sugary soft drinks or energy drinks, all of which can affect sleep.

❖ ❖ ❖

Next Time in *The Carlat Child Psychiatry Report*: Learning and Developmental Disabilities

This Issue's Focus:
Major Depression

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