ABSTRACT

The overall health of children and teenagers is dependent on their physical and psychological health. As pediatricians, it is important to enquire about the mental health of children and adolescents at the well-child visit. Screening for depression and attention-deficit/hyperactivity disorder is an important component of that visit. Understanding these disorders and the long-term effects on both the child and family as well as managing psychotherapeutic and pharmacological treatments are now becoming a critical part of pediatric care for children and adolescents. [Pediatr Ann. 2016;45(12):e408-e411.]

Twenty percent of children in the United States have a diagnosed psychiatric disorder; however, only 21% of that total percentage of children receive psychiatric or psychological care. Early detection and treatment could improve outcomes for many of these children. The pediatrician, as the primary care provider and center of the medical home, is often the first one who identifies and diagnoses the child or teenager. The pediatrician may not have medical records regarding psychiatric care, and many times cannot obtain the necessary information because of patient privacy concerns by the treating psychiatric team. Therefore, mental health concerns are left for the child or family to discuss with the pediatrician.

Unfortunately, there are only about 7,400 practicing child and adolescent psychiatrists in the country with an estimated need for 13,000 by 2020. Although there are many other mental health professionals available, most of these children will likely be treated by a pediatrician. To adequately do so, the pediatrician needs to be educated about common disorders such as anxiety, depression, and attention-deficit/hyperactivity disorder (ADHD). Education also improves coordination of care with other mental health professionals.

The pediatrician should screen for mental health issues, understand the diagnosis, refer to the correct provider, have a basic ability to prescribe certain psychotropic medications, and work with the patient and their insurance to find a mental health provider, as many insurance companies have restricted (or do not provide) mental health services (Table 1).

DEPRESSION

Depression and sadness are not uncommon findings in children; however, major depressive disorder (MDD) can have a significant effect on children and adolescents. MDD is defined as one or more episodes of 2 weeks of depressive symptoms (for example, changes in appetite, disrupted sleep, or loss of interest or concentration) that affect social, academic, and work performance. Children and teenagers with depression may also use alcohol and drugs, manifest or develop other illnesses, and/or become sexually active.

Major depression affects 8% to 12% of adolescents and 8% of those teenagers commit suicide by early adulthood. There is a high cost for treatment of depression, and unfortunately only about 20% of affected adolescents receive care. Like other chronic diseases, early diagnosis, treatment, and education improve outcomes. For this reason, it is recommended that pediatricians screen for depression in children age 12 to 18 years during routine care health visits. The tools most commonly used are the Patient Health Questionnaire for Adolescents (PHQ-A) and the Beck Depression Inventory (BDI). The PHQ-A has a higher predictive value for depression.

Suicide is a major complication of depression; although the rates of suicide have fallen between 1990 and 2013 in teens age 15 to 19 years, there were still 1,748 suicide deaths recorded in 2013. Males commit suicide 3 times more than females despite females making twice as many attempts. Teenagers who are gay, lesbian, transgender, bisexual,
or gender neutral have a higher rate of suicidal ideation than their peers.\(^7\)

Factors influencing depression and suicidal risk are bullying, Internet use, substance and alcohol abuse, family history, posttraumatic stress disorder, and other psychiatric diagnoses. Domestic violence, poor parental relationships, unstable living situation, and boyfriend/girlfriend issues also play a part. Guns in the home also increase the risk of suicide, especially by male teenagers.\(^7\)

Prior to treatment, the pediatrician should assess the child or adolescent for organic causes of signs and symptoms of depression. A thorough history including sleep and eating patterns, substance or alcohol use, and psychiatric conditions such as mood disorders, anxiety, and ADHD should be obtained. A physical examination, including growth parameters, should be performed. Laboratory studies for anemia, thyroid abnormalities, and substance abuse should be considered. Any additional testing should be individualized to the patient.

Treatment of depression includes pharmacology and/or psychotherapy. Selective serotonin reuptake inhibitors (SSRIs) are the preferred medication for depression treatment.\(^5,7\) The pediatrician should be familiar with one or two specific SSRIs medications. The “black-box warnings” regarding the use of SSRIs and increased suicide risk in 2004 resulted in a sharp decline in these medications being prescribed;\(^5\) however, another detailed in Shain\(^7\) showed that few suicides correlated with the use of SSRIs.

Psychotherapy is also important in the treatment of the child or adolescent who is depressed. In one study,\(^5\) cognitive-behavioral therapy (CBT) alone did not show significant recovery or remission, but also did not cause any worsening of outcomes. For younger adolescents with mild symptoms, therapy alone was beneficial.\(^6\) The use of psychotherapy in combination with medication (fluoxetine) showed improvement in symptoms in 71% of children and teenagers compared to 35% in those who received CBT and placebo.\(^5\)

Regardless of the treatment used, patient follow-up is critical to the treatment and management of depression in children and adolescents. In a study by O’Connor et al.,\(^6\) 19% of adolescents with MDD did not receive any follow-up within 3 months of diagnosis, and 40% of those on medication were also not seen at 3 months after starting medicinal treatment. Better outcomes were found in adolescents with adequate follow-up no matter what treatment plan was initiated.\(^6\)

**ATTENTION-DEFICIT/HYPERACTIVITY DISORDER**

ADHD is the most common neurobehavioral condition in children.\(^8\) ADHD has a significant effect on a person’s academic and social success as well as self-esteem. Children with ADHD, aside from the typical presenting signs and symptoms, may also have comorbid conditions such as anxiety, learning disabilities, and depression related to the complications of ADHD. The age range for diagnosis is now expanded to include children from age 4 to 18 years.\(^8\) According to the ADHD Clinical Practice guidelines set by the American Academy of Pediatrics in 2011,\(^8\) diagnosis, treatment, and long-term management of ADHD in the pediatrician’s office would require changes to office procedure; however, not all pediatricians may feel comfortable with the full management of ADHD in the office. In these situations, alternative care plans should be developed to best treat the child, such as referring to a a psychologist for formal evaluation and to a psychiatrist for medication management.

As with depression, evaluation of children and adolescents with hyperactivity, inattentiveness, impulsive behavior, or academic/social problems for ADHD should be initiated by the pediatrician. Diagnosis should be done with reports from parents, teachers, and other people who are involved in the care of the child.\(^8\) Criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition\(^9\) should be met for children. It is important for the pediatrician to evaluate the child for other disorders that may mimic ADHD. Enquiring about academic capabilities, review of normal growth and development milestones, social history for possible sources of stress (eg, divorce, sibling relationships, risk of harm), sleep and eating habits including caffeine use, substance and alcohol use, and family history of ADHD should be

---

**TABLE 1. Mental Health Care Goals for the Pediatrician**

- Screen adolescents starting at age 12 years for depression
- Screen children starting at age 4 years for ADHD symptoms
- Identify those in need of treatment
- Refer to the appropriate mental health provider for evaluation and/or management
- Become familiar with medications used in depression and ADHD treatment
- Initiate the use of medications where appropriate
- Monitor and provide long-term follow-up care
- Create a medical home for the chronic mental health disorder

Abbreviation: ADHD, attention-deficit/hyperactivity disorder

Adapted from Sia,\(^7\) O’Connor et al.,\(^6\) Shain,\(^7\) and AAP News & Journals Gateway.\(^9\)
assessed. A history for comorbid disorders such as depression and anxiety should be obtained. A thorough physical examination should be performed. Laboratory studies for thyroid function, anemia, lead toxicity, and urine toxicology should be considered. The hearing and vision of the child should be assessed.

Treatment varies with the age of the child. For children age 4 to 5 years, behavior therapy is recommended as a first-line treatment. Medication may be used but only if therapy alone is not beneficial. Methylphenidate is the medicine of choice. For children age 6 to 11 years, medication and behavior therapy is recommended. For adolescents between ages 12 and 18 years, medication alone is often sufficient, but behavior therapy may also be indicated. Teenagers should be involved in the decision of whether medication will play a role in their therapy. For school-aged children and teenagers, stimulants are preferable. The use of atomoxetine, guanfacine, and clonidine may not be as beneficial. Behavior therapy involves both the parents and teachers in the child’s treatment, and requires them to be trained in its application. Schools should develop a 504 Plan or Individualized Education Program for students to meet their educational needs.

ADHD should be considered a chronic condition just as asthma, for example, would be. Management and the importance of the medical home in the long-term treatment of ADHD are beneficial for the family and child. Follow-up checks with the patient and the family are important. When starting medication, a 1- to 2-week follow-up assessment (by phone or in the office) is important to titrate dosing, especially with stimulants. Once dosage is stable, the child or adolescent should be seen every 3 to 6 months in the office to monitor weight, heart rate, and blood pressure. A history for sleep disturbance, altered appetite, agitation, mood disturbance, tremors, and tics should also be obtained.

**THE USE OF PSYCHOTROPIC MEDICATIONS**

Many pediatricians have little experience in the use of psychotropic medications except for stimulant use. However, with pediatricians screening for and, in many cases, treating MDD and ADHD there is a need to understand the common medications. Although polypharmacy with psychotropic medications is to be avoided, more pediatricians are finding that they may have to potentially prescribe more than one psychotropic medication for their patients. The shortage of pediatric psychiatrists, poor insurance coverage for psychiatric care, or the inability to access services is making this a necessary reality for the pediatrician.

Stimulant medications, such as methylphenidate and amphetamine, are the recommended first-line treatment for ADHD. The history of palpitations, rapid heart rate, syncope, or chest pain in the patient should be obtained before prescribing these medications. A family history of heart disease should also be determined. Blood pressure and heart rate should be recorded before prescribing stimulants and at regular follow-up visits. Immediate-release dextroamphetamine and mixed-amphetamine salts are approved for children age ≥3 years, whereas other stimulants are approved for children age ≥6 years. Starting at a low dose and titrating upward (as often as weekly) is recommended to achieve benefit. Adverse side effects include mood changes, tics, tremors, decreased appetite, sleep disruption, hypertension, and/or tachycardia.

Atomoxetine is a norepinephrine reuptake inhibitor approved for the treatment of ADHD in children age ≥6 years. It is not a first-line treatment, but may be beneficial in patients with associated anxiety or defiance. Atomoxetine should be titrated over at least 3 days, and may not show any benefit for 2 to 6 weeks. Headache, nausea, abdominal pain, sleepiness, and suicidal ideation are potential complications of this medication.

Central alpha 2 agonists, such as clonidine and guanfacine, are often used as first- or second-line treatment for ADHD. The medications originally used for hypertension treatment can cause hypotension, so a cardiac history and physical examination, as described earlier, should be performed. These medicines can be titrated weekly to a maximum dose over 3 weeks; however, compliance to medication scheduling is important to avoid hypertensive episodes. Administration at bedtime minimizes any sedative effects. Headache, nausea, and abdominal pain are other potential complications of these medications. Clonidined guanfacine are available as long-acting forms, and may take up to 3 weeks to show any benefit.

SSRIs are used effectively in the management of depression and anxiety in children and teenagers. These medications work best when used in conjunction with psychotherapy. Patients usually show improvement in 1 to 2 weeks with maximum benefit at 4 to 8 weeks after starting the SSRI. The dose can be titrated upwards on monthly intervals; however, close monitoring of the patient is important either in the office or by phone. Failure of one SSRI does not preclude the use of another. Weaning from an SSRI should be done over 4 to 8 weeks. If the second SSRI fails to benefit the patient, he or she
Mental Health Care Providers and Reimbursement

Providers of mental health services include psychiatrists, licensed psychologists, clinical social workers, mental health counselors or licensed professional counselors, psychiatric nurses, and family therapists. Pediatricians should have referral sources available for their patients. Referral options can be limited due to geographic location, insurance reimbursement issues, lack of rapport with the patient and family, and time commitment and appointment availability. Pediatricians should be willing to help families navigate their health insurance plans in terms of writing supportive letters of appeal as well as helping to determine which mental health specialists participate in the patient’s network of care providers. Pediatricians should also be certain to document time spent with the patient, and use the correct International Statistical Classification of Diseases and Related Health Problems, 10th edition, criteria as well as current procedural terminology codes to substantiate fees when billing for appointments.

Conclusion

Pediatric mental health issues are prevalent, and becoming an important component of the routine pediatric visit. Screening for depression starting at age 12 years and for ADHD as young as age 4 years is now recommended. The mental health and school/social performance of all pediatric patients should be part of the annual office visit. Early detection and proper treatment both with medication and/or therapy improve long-term outcomes. Unfortunately, too many children do not receive any treatment even with early detection on screening. The goal of the pediatrician should be to provide a medical home for the child’s mental and physical well-being. To do so requires continued education by the pediatrician to facilitate the process.

References

