The prevalence of depression is increasing among youth in the United States. The 2005 to 2014 National Surveys on Drug Use and Health, which included 172,495 adolescents 12 to 17 years of age, found that the percentage of adolescents who experienced one or more major depressive episodes in the previous 12 months increased from 9% in 2005 to 11% in 2014. In 2016, this percentage was approximately 13% (5% in 12-year-olds, 13% in 14-year-olds, and 17% in 17-year-olds), and although 70% of youths experienced severe impairment from depression, only about 40% received treatment. Treatment rates have changed little since 2005, raising concern that adolescents are not receiving needed care for depression.

### Risk Factors
Increased risk of depression in children and adolescents may be due to biologic, psychological, or environmental factors (Table 1). In children 12 years and younger, depression is slightly more common in boys than in girls (1.3% vs. 0.8%). However, after puberty, adolescent girls are more likely to experience depression.

### Screening for Depression
The U.S. Preventive Services Task Force (USPSTF) recommends screening children and adolescents 12 to 18 years of age for major depressive disorder with adequate systems in

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**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 607.

**Author disclosure:** No relevant financial affiliations.

**Patient information:** A handout on this topic is available at https://www.aafp.org/afp/2019/1115/p609-s1.html.
place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.\textsuperscript{36} The American Academy of Family Physicians supports the USPSTF recommendation.\textsuperscript{37} In 2018, the American Academy of Pediatrics endorsed the Guidelines for Adolescent Depression in Primary Care (GLAD-PC), which recommends screening adolescents 12 years and older annually for depressive disorders using a self-report screening tool.\textsuperscript{38,39}

There are various instruments to screen adolescents for depression. One popular instrument for use in primary care is the Patient Health Questionnaire-9: Modified for Teens (also called PHQ-A) for patients 11 to 17 years of age. The PHQ-A is shown in Figure 1 and Table 2, along with four questions not used in scoring that address suicidality, dysthymia, and severity of depression.\textsuperscript{40,41}

**Clinical Presentation**

The presenting sign of major depressive disorder may be insomnia or hypersomnia; weight loss or gain; difficulty concentrating; loss of interest in school, sports, or other previously enjoyable activities; increased irritability; or feeling sad or worthless.\textsuperscript{42} To distinguish between normal grief, such as after the loss of a loved one, and a major depressive episode, it may be helpful to determine whether the predominant symptom is a sense of loss or emptiness (more typical of grief) vs. a persistent depressed mood with the inability to anticipate future enjoyable events (more typical of depression).\textsuperscript{42}

**Diagnosis**

When a child or adolescent screens positive using a formal screening tool, such as the PHQ-A, or when he or she presents with symptoms indicating a possible depressive disorder, the primary care physician should assess whether the symptoms are a result of a major depressive episode or another condition that could present with similar symptoms. To diagnose major depressive disorder, criteria from the Diagnostic and Statistical Manual of Mental Disorders, 5th ed. (DSM-5), must be met and not explained by substance abuse, medication use, or other medical or psychological condition.\textsuperscript{42} The full DSM-5 criteria are available at https://www.aafp.org/afp/2018/1015/p508.html#afp20181015p508-t6. Some children may develop a cranky mood or irritability rather than sadness.

Medical conditions that may present similarly to depression include hypothyroidism, anemia, autoimmune disease, and vitamin deficiency. Laboratory tests that may be helpful in ruling out common medical conditions that could be mistaken for depression include complete blood count; comprehensive metabolic profile panel; an inflammatory

**TABLE 1**

<table>
<thead>
<tr>
<th>Biologic</th>
<th>Psychological</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being overweight\textsuperscript{2}</td>
<td>Body dissatisfaction and early dieting\textsuperscript{2,14,15}; sweetened beverage consumption\textsuperscript{16}</td>
<td>Academic difficulties\textsuperscript{8}</td>
</tr>
<tr>
<td>Chronic illness (e.g., lupus, diabetes mellitus, asthma)\textsuperscript{3-5}</td>
<td>Dysfunctional emotional regulation\textsuperscript{17}</td>
<td>Being victimized or bullied or witnessing violence\textsuperscript{7,8,25-26}; physical, sexual, or emotional abuse or neglect\textsuperscript{7,27}</td>
</tr>
<tr>
<td>Early puberty (girls)\textsuperscript{6}</td>
<td>Internet gaming disorder or video game addiction\textsuperscript{18,19}</td>
<td>Exposure to natural disasters\textsuperscript{29,30}</td>
</tr>
<tr>
<td>Family history of depression\textsuperscript{7}</td>
<td>Less attachment to parents and peers, or problems with peers\textsuperscript{6-8,17}</td>
<td>Few opportunities for physical activity and sports\textsuperscript{31}; low physical activity\textsuperscript{32}; greater than two hours per day of leisure-time screen use\textsuperscript{41}</td>
</tr>
<tr>
<td>Female sex\textsuperscript{8,9}</td>
<td>Low self-esteem and lack of self-kindness\textsuperscript{20,21}</td>
<td>Foreign born or perceived discrimination\textsuperscript{8,13}</td>
</tr>
<tr>
<td>High-functioning autism\textsuperscript{10,11}</td>
<td>Negative thinking and recall styles\textsuperscript{22,23}</td>
<td>Loss of a loved one\textsuperscript{8}</td>
</tr>
<tr>
<td>LGBTQ identified\textsuperscript{13}</td>
<td>Other mental health and behavior problems, including previous depression and cannabis or tobacco use\textsuperscript{6-8,13}</td>
<td>Low socioeconomic status\textsuperscript{7,8,33,34}</td>
</tr>
<tr>
<td>Polymorphisms in the serotonin, dopamine, or monoamine oxidase genes\textsuperscript{13}</td>
<td>Problematic use of social media (e.g., Facebook)\textsuperscript{24}</td>
<td>Parental rejection or low parental involvement\textsuperscript{6,13}</td>
</tr>
<tr>
<td></td>
<td>Worried about school grades or standardized testing\textsuperscript{8}</td>
<td>Poor family functioning or caretaker depression\textsuperscript{6,8,13}</td>
</tr>
</tbody>
</table>

LGBTQ = lesbian, gay, bisexual, transgender, queer/questioning.

Information from references 2-34.
biomarker, such as C-reactive protein or erythrocyte sedimentation rate; thyroid-stimulating hormone; vitamin B₁₂; and folate.

Other psychological conditions that may present similarly to major depressive disorder include persistent depressive disorder (also called dysthymia) and disruptive mood dysregulation disorder. If a child or adolescent has a depressed mood for more days than not for at least one year, the diagnosis may be persistent depressive disorder, which is often treated the same as a major depressive episode (e.g., antidepressants, psychotherapy). If a child or adolescent is predominantly angry with temper outbursts, the diagnosis may be disruptive mood dysregulation disorder or post-traumatic stress disorder.

Symptoms of bipolar disorder, eating disorders, and conduct disorders may also overlap with major depressive

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**FIGURE 1**

Name: ___________________________  Clinician: ___________________________  Date: __________

**Instructions:** How often have you been bothered by each of the following symptoms during the past two weeks? For each symptom put an “X” in the box beneath the answer that best describes how you have been feeling.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>Several days</td>
<td>More than half the days</td>
<td>Nearly every day</td>
</tr>
<tr>
<td>1. Feeling down, depressed, irritable, or hopeless?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Little interest or pleasure in doing things?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Trouble falling asleep, staying asleep, or sleeping too much?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Poor appetite, weight loss, or overeating?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Feeling tired or having little energy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Feeling bad about yourself – or feeling that you are a failure, or that you have let yourself or your family down?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Trouble concentrating on things like schoolwork, reading, or watching television?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people have noticed? Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead or of hurting yourself in some other way?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the past year, have you felt depressed or sad most days, even if you felt okay sometimes?

☐ Yes  ☐ No

If you are experiencing any of the problems on this form, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

☐ Not difficult at all  ☐ Somewhat difficult  ☐ Very difficult  ☐ Extremely difficult

Has there been a time in the past month when you have had serious thoughts about ending your life?

☐ Yes  ☐ No

Have you ever, in your whole life, tried to kill yourself or made a suicide attempt?

☐ Yes  ☐ No

If you have had thoughts that you would be better off dead or of hurting yourself in some way, discuss this with your physician, go to a hospital emergency room, or call 911.

**Patient Health Questionnaire-9: Modified for Teens.**

**Note:** See Table 2 for scoring.

disorder. Children and adolescents may have more than one psychiatric diagnosis concurrently, such as comorbid depression and anxiety. According to the Centers for Disease Control and Prevention, 74% of children three to 17 years of age who have depression also have anxiety, and 47% of children with depression also have a behavior problem. Therefore, a thorough assessment is needed, with possible mental health consultation or referral.

**Risk Assessment for Suicide**

Suicide is the second leading cause of death for people 10 to 24 years of age after unintentional injury. Depression is a risk factor for suicide, but at-risk youth can be easily missed without specific suicide screening. In one study, nurses in a pediatric emergency department used the Ask Suicide-Screening Questions (ASQ) tool to assess suicide risk in 970 adolescents who presented with psychiatric problems. Of those who screened positive, 53% did not present with suicide-related problems. The sensitivity and specificity for a return visit to the emergency department because of suicidality within six months were 93% and 43%, respectively, for a positive predictive value of 10% and a negative predictive value of 99%. The ASQ screening test is shown in Figure 2. The complete ASQ toolkit is available at https://www.nimh.nih.gov/research/research-conducted-at-nimh/asq-toolkit-materials/index.shtml#outpatient.

**Treatment**

**INITIAL MANAGEMENT**

The GLAD-PC guidelines recommend that primary care physicians counsel families and patients about depression and develop a treatment plan that includes setting specific goals involving functioning at home, at school, and with peers. For example, a treatment plan might include treating others with respect, attending family meals, keeping up with schoolwork, and spending time in activities with supportive peers. Additionally, a safety plan should be established that limits access to lethal means, such as removing firearms from the home or locking them up. It should also provide a way for the patient to communicate during an acute crisis (e.g., providing phone numbers for people to contact if suicidal thoughts occur, creating a list of coping skills, educating the parents on how to recognize if the patient is a risk to self or others). If the danger of suicide becomes imminent, psychiatric evaluation in a hospital emergency department or psychiatry crisis clinic is needed.

For mild depression, which may be short-lived, primary care physicians should consider active support such as counseling about depression and treatment options, facilitating caregiver/patient depression self-management, and monitoring the patient every week or two for six to eight weeks before initiating pharmacotherapy and/or

### Table 2

**Scoring the PHQ-9: Modified for Teens**

<table>
<thead>
<tr>
<th>Total score</th>
<th>Depression severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>No or minimal depression</td>
</tr>
<tr>
<td>5 to 9</td>
<td>Mild depression</td>
</tr>
<tr>
<td>10 to 14</td>
<td>Moderate depression</td>
</tr>
<tr>
<td>15 to 19</td>
<td>Moderately severe depression</td>
</tr>
<tr>
<td>20 to 27</td>
<td>Severe depression</td>
</tr>
</tbody>
</table>

**Note:** See Figure 1 for the questionnaire.

PHQ = patient health questionnaire.

*—Positive is defined by a 2 or 3 in questions 1 to 8 and by a 1, 2, or 3 in question 9.

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psychotherapy. According to the DSM-5, although the symptoms of mild depression are distressing, they are manageable and result in only minor impairment in functioning, whereas severe depression causes more seriously distressing, unmanageable symptoms that greatly impact functioning. See Figure 3 for a suggested approach to the management of depression in children and adolescents.

ONGOING MANAGEMENT
Treatment options for children and adolescents with depression include psychotherapy and antidepressants. Cognitive behavior therapy (CBT) is a form of talk therapy that focuses on changing behaviors by correcting faulty or potentially harmful thought patterns and generally includes five to 20 sessions. Whereas CBT focuses on cognition and behaviors, interpersonal psychotherapy concentrates on improving interpersonal relationships and typically includes around 12 to 16 sessions.

Fluoxetine (Prozac) and escitalopram (Lexapro) are the only two medications approved by the U.S. Food and Drug Administration to treat major depressive disorder in children and adolescents. Fluoxetine is approved for patients eight years and older, and escitalopram is approved for patients 12 years and older. There are concerns of increased suicidality with the use of fluoxetine and escitalopram in this population.

Although there were no suicides in trials of children and adolescents taking antidepressants, suicidal thoughts and behaviors were increased compared with placebo (4% vs. 2%). Children and adolescents who are taking these medications should be monitored for suicidality. The frequency of monitoring should be based on the individual patient’s risk (e.g., weekly monitoring at treatment onset, monthly monitoring in a child showing steady improvement on antidepressants).

PHARMACOTHERAPY ALONE
Three systematic reviews of randomized controlled trials including children and adolescents with major depressive disorder support the use of fluoxetine as the first-line antidepressant medication. Two reviews also support the use of escitalopram as initial therapy. However, the effects of fluoxetine and escitalopram as monotherapy were often similar to placebo, depending

FIGURE 2

Ask the patient:
1. In the past few weeks, have you wished you were dead?
   □ Yes □ No
2. In the past few weeks, have you felt that you or your family would be better off if you were dead?
   □ Yes □ No
3. In the past week, have you been having thoughts about killing yourself?
   □ Yes □ No
4. Have you ever tried to kill yourself?
   □ Yes □ No
If yes, how? __________________________
When? __________________________

If the patient answers “Yes” to any of the above, ask the following acuity question:
5. Are you having thoughts of killing yourself now?
   □ Yes □ No
If yes, please describe: __________________________

Next steps:
If the patient answers “No” to all of questions 1 to 4, screening is complete (not necessary to ask question 5). No intervention is necessary. (Note: clinical judgment can always override a negative screen.)
If the patient answers “Yes” to any of questions 1 to 4 or refuses to answer, it is considered a positive screen. Ask question 5 to assess acuity:
   □ “Yes” to question 5 = acute positive screen (imminent risk identified)
      Patient requires an urgent safety assessment and full mental health evaluation. Patient cannot leave until evaluated for safety.
      Keep patient in sight. Remove all dangerous objects from room.
      Alert physician or clinician responsible for patient’s care.
   □ “No” to question 5 = nonacute positive screen (potential risk identified)
      Patient requires a brief suicide safety assessment to determine if a full mental health evaluation is needed. Patient cannot leave until evaluated for safety.
      Alert physician or clinician responsible for patient’s care.

Provide resources to all patients
24/7 National Suicide Prevention Lifeline: 800-273-TALK (8255),
En Español: 888-628-9454
24/7 Crisis Text Line: text “HOME” to 741-741

Ask Suicide-Screening Questions Tool to assess for suicidality.

on the outcome measured. Tricyclic antidepressants, other selective serotonin reuptake inhibitors, and serotonin-norepinephrine reuptake inhibitors have not been shown to be effective in treating depression in children and adolescents.\textsuperscript{46,52-54} If neither fluoxetine nor escitalopram is effective and antidepressant therapy is desired, referral to a child or adolescent psychiatrist is recommended.

**PSYCHOTHERAPY ALONE**

Evidence is mixed for the use of CBT as monotherapy in children and adolescents with depression. A systematic review for the USPSTF found no benefit of CBT on remission or recovery and inconsistent effects on symptoms, response, and functioning.\textsuperscript{54} One trial of youth with major depression who declined antidepressants found that compared with self-selected treatment as usual, 12 weeks of CBT was associated with shorter time to treatment response and remission and improved depression scores through week 52 but not in weeks 53 to 104.\textsuperscript{55} In children and adolescents with subclinical depression, one systematic review (19 trials) found moderate-quality evidence that CBT is associated with a small effect on depressive symptoms vs. waitlist or no treatment.\textsuperscript{56}

**COMBINED THERAPY**

Evidence from a good-quality randomized trial suggests that adolescents are most likely to achieve remission with 12 weeks of combined therapy with fluoxetine and CBT (37%; number needed to treat = 4) compared with either therapy alone (23% with fluoxetine; number needed to treat = 11; 16% with CBT) or placebo (17%).\textsuperscript{47,57} Suicidality declined with duration of treatment for all therapies, but the decline was less steep for fluoxetine alone (26.2% at baseline to 13.7% at week 36) vs. combination therapy (39.6% to 2.5%) and CBT alone (25.2% to 3.9%).\textsuperscript{47,57}

In another trial of adolescents who achieved at least a 50% decrease in depression scores following six weeks of fluoxetine treatment, those who were randomized to receive the addition of CBT to fluoxetine therapy for six months were less likely to relapse at 78 weeks compared with continued fluoxetine monotherapy (36% vs. 62%).\textsuperscript{58}

Children and adolescents with moderate or severe depression or persistent mild depression
should be treated with fluoxetine or escitalopram in conjunction with CBT or other talk therapy. If combination therapy is not used, monotherapy with an antidepressant or psychotherapy is recommended, although the likelihood of benefit is lower.

Reassessing Treatment and Treatment Duration

One trial found that early reassessment of depression is valuable. In this study, all youth received interpersonal psychotherapy and were randomized to a four- or eight-week follow-up assessment for treatment modification. If additional treatment was needed because of inadequate response, patients were further randomized to add-on fluoxetine or more intense (twice weekly) psychotherapy. Those who were reassessed at four weeks improved the most at 16 weeks (a difference of 5.7 points on the Hamilton Rating Scale for Depression; scores on this scale can range from 0 to 58 points, with a score of 0 to 7 considered normal and a score of 20 associated with moderate depression; \( P < .05 \)). Additionally, those who began add-on fluoxetine at four weeks had better posttreatment depression scores than those who began intense interpersonal psychotherapy at eight weeks, although there was no difference in global assessment scores between the two groups.

Treatment duration for talk therapy in adolescents with unipolar depression is typically six months or less, but longer treatment may be necessary. Although good evidence regarding the duration of medication treatment in adolescents with depression is lacking, the GLAD-PC guidelines recommend continuing medication for one year beyond the resolution of symptoms.

Referral to a Mental Health Subspecialist

If a child or adolescent does not improve after initial treatment for depression, the primary care physician may add, change, or increase a medication and may consider referral for psychotherapy. Referral to a licensed mental health professional is appropriate at any point in the treatment process. However, if the depression does not improve or the child deteriorates even with treatment, consultation with or referral to a child or adolescent psychiatrist is necessary.

This article updates previous articles on this topic by Clark, et al.; Bhatia and Bhatia; and Son and Kirchner.

Data Sources: We conducted general and targeted searches using Essential Evidence Plus, Ovid Medline, PubMed, the Cochrane Database of Systematic Reviews, the U.S. Preventive Services Task Force, the Agency for Healthcare Research and Quality, and UpToDate, including the key words children or adolescents with depression. Search dates: November 2018 to January 2019, and September 27, 2019.

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