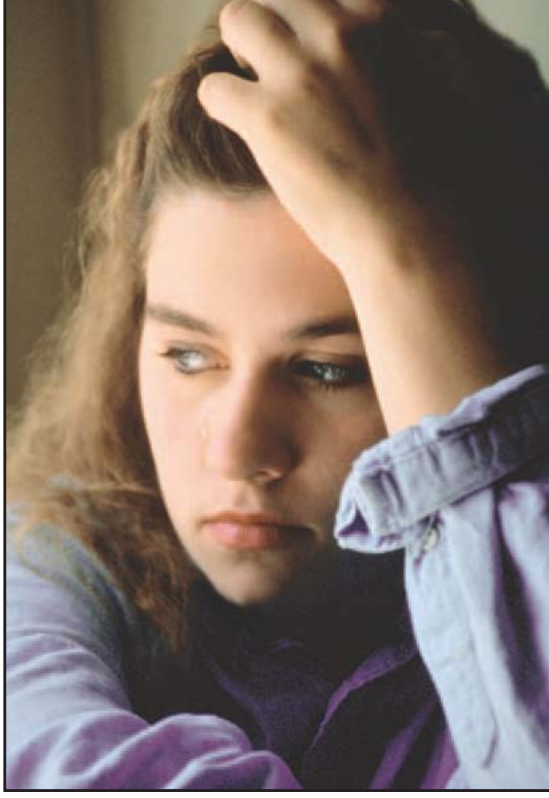
Not Just the Teenage Blues: Adolescent Depression and Suicidality



By Brian Greenfield, MD, FRCP, ABPN

In this article:

Case Study

Melanie, 15, lives with her parents. The school guidance counsellor brought her to the emergency room, having been told Melanie was thinking about suicide. Melanie complained of feeling depressed for seven months, since her parents began arguing.

Her grades have declined since she started Grade 10. She spoke of not wanting to live anymore, but has no plans to hurt herself, and has never made a suicide attempt. Her concentration is impaired, she cannot fall asleep at night, she is fatigued, lacks energy, cries at night before going to sleep, lacks initiative, and has a decreased appetite. She has lost seven pounds in four months.

How do I recognise depression?

Melanie presents with the classical signs of depression (Table 1). As reviewed by Harrington, adult criteria is used to make the diagnosis.[1] As in Melanie's case, several criteria must be met to achieve this diagnosis.

According to both the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10), and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, (DSM IV), depression is an episodic disorder lasting several weeks, charac-

Table 1
Signs of Depression

- Feeling "down" or agitated
- Decreased concentration
- Insomnia (initial or terminal)
- Change in energy level
- Feeling fatigued
- Change in appetite and weight
- Feeling suicidal
- Poor self-esteem
- Anhedonia

Table 2
Co-Morbid Conditions

- Anxiety disorder
- Conduct disorder
- Family dysfunction
- Attention deficit hyperactivity disorder
- Learning disorder
- Neurologic conditions

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terised by depressive mood, and a loss of enjoyment.[2,3] The individual also experiences depressive thinking or pessimism about the future or suicidal ideas, and suffers from such biologic symptoms as early waking, reduced appetite, and weight loss. The DSM IV adds that irritable mood may replace depressive feelings, and that depressed youth may suffer somatic complaints and social withdrawal. As well, depressed youth often have decreased self-esteem, cognitive distortions, and low perceived academic and social competence. They selectively attend to negative features of an event, and attribute the cause of positive events to unstable external causes, rather than to their own endeavours. There is a trend to consider the disorder from the perspective of a continuum of symptoms, rather than as an entity for which one is either depressed or not. Some clinicians reserve the diagnosis for those who experience profound suffering, social dysfunction, or severe suicidality.

What conditions accompany depression?

Melanie stated that anxiety prevented her from falling asleep, and attributes her insomnia to concerns that her parents will separate. Her mother often criticises her father, and the arguing has diminished Melanie's ability to concentrate when studying. Although Melanie has no symptoms of conduct disorder (CD), anxiety disorders and CD are the most common co-morbid conditions (Table 2). Depression can also be associated with physical disorders, such that 7% of general pediatric inpatients has depression, and 40% of patients on a neurologic ward with unexplained headaches, suffer from depression.[4,5] As well, restlessness may be seen in agitated depression, hypo-mania, and attention deficit hyperactivity disorder.

There is also great variability with respect to an adolescent's response to stressful life events (*i.e.,* abuse, bullying,

parental discord), although the context of the event, its meaning, and the events before and after are probably significant.

Is it genetic?

Melanie's paternal grandfather had a "nervous breakdown," her maternal grandmother experienced depressive episodes, and her mother has taken antidepressants during the past eight months. During examination, the mother cried when talking about her own depression, and expressed sadness that her disorder probably affected her daughter. Melanie was sad, and appeared anxious while observing her mother's tears. She spoke of having a poor self-image, which she attributed to her mother's criticisms.

Genetic studies report that the offspring of depressed parents are at increased risk of depressive psychopathology, panic disorder, and medical problems in childhood and early adult life. Very often, at least one parent of a depressed child is also depressed.[6] Genetic factors might act by increasing vulnerability to adverse life events (Table 3).

Table 3
Genetic Risk Factors

- Current or past parental depression
- History of depression in previous generations
- Family stress as a mediator of genetic factors
- Temperament

The family environment may act as a mediator of the child's depression, as children with problems may be a source of stress for their parents, and vice versa.

It may be that temperamental features, such as emotionality, are associated with depression, as may a child's cognitive or behavioural style, such as a ten-

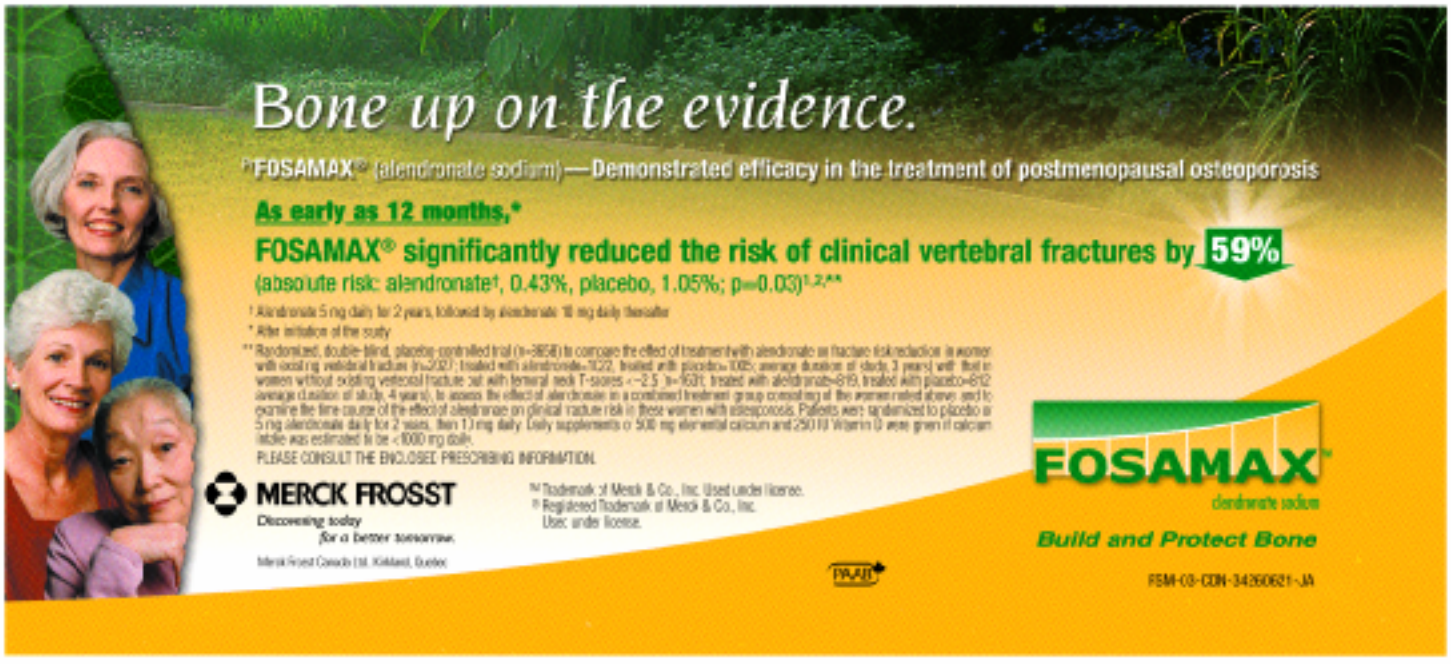

Table 4

Biological Factors Associated With Pediatric Depression

- Positive response to fluoxetine
- Reduced levels of the 5-HT transporter protein
- Reduced suppression of the DST
- MRI and EEG findings

5-HT = 5-hydroxytryptamine, DST = Dexamethasone suppression test, MRI = Magnetic resonance imaging, EEG = Electroencephalogram

dency to blame oneself rather than other people. As well, anxiety tends to precede depression in children and adults, suggesting that depression is secondary to anxiety, and the two disorders share a common temperamental basis.

What is the role of biology?

Weller gives a useful overview of the biology of adolescent depression, as can be found in Table 4.[7] For example, growth hormone hyper-secretion has been reported during the sleep of depressed youth, as well as reduced levels of the transporter protein of the monoamine neurotransmitter 5-hydroxytryptamine (*i.e.* seretonin) in their blood platelets. Depressed adolescents have responded favourably to the selective serotonin reuptake inhibitor (SSRI), fluoxetine. Also, depressed youth are less likely to show suppression of cortisol secretion when administering the exogenous corticosteroid dexamethasone, during the dexamethasone suppression test (DST). Youth with normal DST at five-month followup tend to be clinically well, whereas those with an abnormal DST at five months tend to be depressed. Abnormalities of cortisol metabolism are not specific, however, and are seen in other psychiatric disorders and stressful situations.

Table 5

How Many Young People are Depressed?

- 0.9% of pre-schoolers
- 1.9% of school-age children
- 4.7% of adolescents
- More common in adolescent females than males
- One year relapse rate of 18.4%

Although there have been few neuro-imaging studies on depressed youth, alterations in the frontal lobe and the lateral ventricle, and regional cerebral blood flow deficits, have been observed on magnetic resonance imaging, as well as electroencephalogram abnormalities of alpha assymetry. Sleep studies have shown contradictory findings.

It has been further suggested that a first episode of depression may sensitise the youth to subsequent episodes, a mechanism named "scarring."[8]

Is pediatric depression common?

It has been estimated that 0.9% of pre-schoolers, 1.9% of school-age children, and 4.7% of adolescents suffer from major depression with impairment, and the cumulative probability of having a depressive disorder by late adolescence is 10% to 20%.[9,10] This disorder can contribute to the incidence of suicide, which claimed 12.5 of 100,000 Canadian lives in the 15 to 19-year-old population during 1998.[11]

Pre-adolescent depression is less prevalent, may show a male predominance, and is more associated with family dysfunction, than adolescent depression. There is a female preponderance by late adolescence, perhaps because of an interaction between adolescent, hormonal, and social conditions.[12] There may also have been a slight increase in depression during the last century, the result of earlier onset of puberty, and increased family conflict, or a refinement in the diagnostic measures (Table 5).

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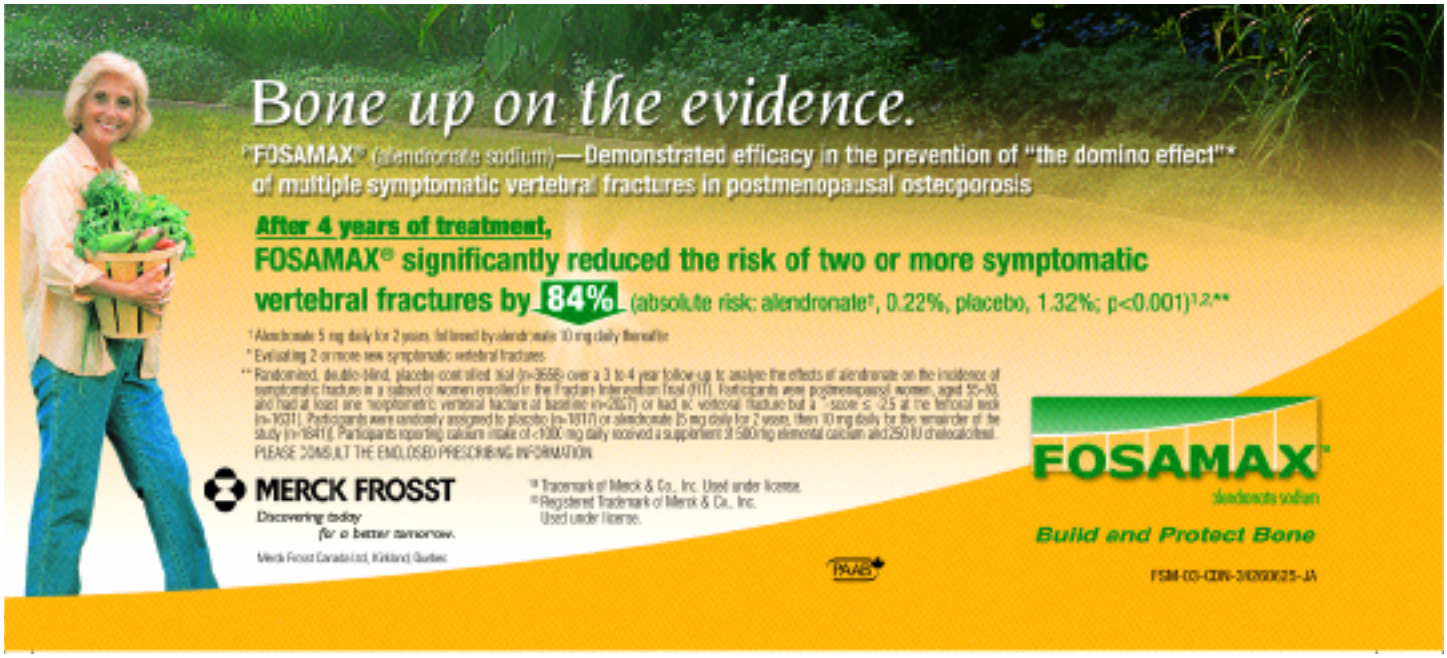

Take-home message

- Teenagers often come to the attention of health professionals when they reveal to friends or school authorities that they have contemplated or attempted suicide. As with Melanie, they complain of several signs of depression.
- The adolescent's parents are often aware of treatment possibilities through the Internet, and need further coaching and reassurance with respect to the potential side effects and treatment profile of medication. It is common that the parents need encouragement to seek counselling and medication, not only for the identified patient, but for themselves as well.
- Simple gestures can be very supportive, such as the availability of someone to call in the event of clinical deterioration, as are followup appointments to monitor the progress of the medication and prescribed therapies.

How should we treat pediatric depression?

A biopsychosocial approach has been advocated for the treatment of depressed youth, as has a pharmacologic approach, but no definitive strategy has been proposed.[13,14] The biopsychosocial approach includes psychotherapy (individual, family, and/or group), social skills training, medication when needed, assessment of academic strengths, weaknesses, and placement. Cognitive behavioural therapy is a possibility for individual therapy, as are interpersonal therapy, psychodynamic therapy, and group cognitive therapy. SSRIs are a pharmacologic option. If the child is obsessed with suicide and/or has definite plans, hospitalisation should be considered.

SSRIs may cause nausea, vomiting, diarrhea, agitation, disinhibition, jitteriness, headache, insomnia, and tremors, but they have fewer anti-cholinergic side effects, limited cardiovascular toxicity, and a wider therapeutic index than the tricyclic antidepressants. Recovery from a depression disorder may be prolonged in

the presence of a co-morbid externalising disorder, poor peer relations, a conflictual family environment, and absence of a confiding relationship with the mother. Dx

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