

# Depression in children and adolescents

*Depression is a relatively common presentation and needs to be recognised in children and adolescents.*

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'Depressive disorders are often familial recurrent illnesses associated with increased psychosocial morbidity and mortality. Early identification and treatment may reduce the impact of depression on the family, social, and academic functioning ... and may reduce the risk of suicide, substance abuse and persistence of depressive disorders into adulthood. Evidence supported treatment interventions have emerged in psychotherapy and medication treatment of childhood depressive disorders that can guide clinicians to improve outcomes in this population.'<sup>1</sup>

This article aims to highlight current best practice in the management of major depression in children and adolescents. Mood changes with feelings of sadness, misery and unhappiness are common after disappointments or stressful life events, and usually the child or adolescent adapts. A persistent change in mood with deterioration in functioning is the central feature of depression.

A study by Kleintjes *et al.* suggested a prevalence rate of 8% for depression in children and adolescents in the Western Cape.<sup>2</sup> International estimates suggest a

prevalence rate of 1 - 2% in children (aged 6 - 12 years) and 4 - 8% in adolescents (aged 13 - 18 years). Importantly, during childhood boys and girls are equally affected, while during adolescence girls are twice as likely to be depressed as boys.<sup>3</sup>

## When a child or adolescent presents with a first episode of depression, a diagnosis of bipolar mood disorder cannot be excluded.

### Clinical presentation

The clinical picture is similar to that seen in adults but differences may be attributed to the child's physical, emotional, cognitive and social development. Typically, there is a minimum of a 2-week period of a changed mood, when the child or adolescent may appear depressed (Table 1).

Younger children under the age of 6 years may present with apathy and food refusal.

They may be miserable, cry a great deal and rock. The picture in adolescents closely resembles that seen in adults. Adolescents may present with melancholia, behavioural problems suggestive of a conduct disorder and suicide attempts. They also may have an atypical presentation with increased sleep patterns (hypersomnia) and weight gain. It is important to diagnose a true depression in adolescence as opposed to a fluctuating mood, which is typically seen in adolescents experiencing hormonal changes. Substance misuse in adolescence should also be considered. There must be a change from the previous level of functioning, with impairment in friendships and school performance and other related activities. Although psychotic symptoms are rare in younger children, they may present in adolescence. Psychotic depression is associated with a family history of bipolar disorder and psychotic depression. It has a poorer longer-term prognosis, with an increased risk of bipolar disorder and treatment resistance.

Dysthymia is a chronic condition lasting for at least a year. The features are similar to those seen in a major depression but less

**Table 1. Symptoms of depression**

- Mood is sad or unhappy, with very little spontaneity
- Irritability with nagging, whining and angry outbursts (may be mistaken for 'naughtiness')
- Loss of interest in usual activities with energy level changes, which may be increased or decreased
- Changes in appetite accompanied by weight changes, or 'fussy' eating
- Changes in sleep pattern
- Capacity to have fun is reduced, the child complains of boredom
- Self-esteem may be low
- There may be social withdrawal such as refusing to visit friends
- They may talk less and may express the wish to be dead, with suicidal attempts or ideation
- They may express guilt and feelings of hopelessness
- Poor concentration associated with depression may be mistaken for attention deficit hyperactivity disorder (ADHD)
- They may present with physical complaints such as a headache or sore tummy and somatise
- High levels of anxiety may predate the onset of depression

severe. Some children and adolescents may have a 'double depression' – a combination of a major depressive episode together with a chronic mood disorder (dysthymia).

### Major depression in children and adolescents may have a self-limiting course, but there is a high risk of recurrence.

#### Risk factors

As with many psychiatric disorders, major depression is thought to be caused by the interaction of genetic and environmental factors. Risk factors may be divided into those that:

**pre-dispose** or increase the vulnerability to depression, such as

- family history of depressive disorder
- low levels of parental warmth and high levels of family conflict
- parental mental health problems
- early or chronic adversity such as abuse, poverty or social disadvantage
- temperamental or personality characteristics, such as children who are anxious or self-critical
- **precipitate** a depressive episode, e.g. stress-ful life events such as losses, failures or disappointments
- **maintain** depression, such as persistent adversity, e.g. family or peer problems.<sup>4</sup>

#### Co-morbid conditions

Up to 40 - 90% of children and adolescents who are depressed have other psychiatric disorders, with up to 50% having two or more co-morbidities.<sup>1</sup> The following conditions occur commonly with depression: dysthymia, autism spectrum disorders, anxiety, disruptive disorders, ADHD, and substance abuse. These conditions may predate or occur with the depression. Co-morbid conditions are important to identify, as they may require a different intervention. They may also contribute to treatment-resistant depression.

#### Differential diagnoses

Many psychiatric and medical disorders may mimic depression.<sup>1</sup> Anxiety, a chronic low mood such as is seen in dysthymia

and poor concentration and irritability as part of ADHD may mimic a depressed mood. Children with an autism spectrum condition may appear withdrawn and have a flat affect, which may be confused with depression. Substance misuse may lead to dysphoria and mimic depression.

Medical disorders such as hypothyroidism and anaemia, and patients on medications such as stimulants, corticosteroids and contraceptives, may present with symptoms similar to depression.<sup>1</sup>

When a child or adolescent presents with a first episode of depression, a diagnosis of bipolar mood disorder cannot be excluded. A careful assessment for a manic or hypomanic episode needs to be made. A high family loading of bipolar mood disorder, the presence of psychosis or medication-induced hypomania should raise the index of suspicion for the possibility of a bipolar mood disorder.

#### Clinical course

Major depression in children and adolescents may have a self-limiting course, but there is a high risk of recurrence. A number of factors contribute to a poorer long-term outcome. This includes a severe mood disorder, a family history of mood disorders, psychotic episodes and exposure to ongoing negative life events.<sup>5</sup>

#### Assessment for depression

- Always try to see the child or adolescent alone. They may have difficulty verbalising their feelings or may deny that they feel depressed. Parents/carers may give valuable information about changes in level of functioning and other symptoms, but they may not always be aware of e.g. recent stressors or sleep pattern changes.
- Explore ongoing stressors (such as being a carer or living in a child-headed household). Also consider abuse or bullying and co-morbid anxiety.
- Ask nonspecific general questions, such as 'Other than your headache/tummy ache, is anything else worrying you?' or 'How is school going?' and 'Are there any difficulties there?' Other questions such as 'Sometimes children who are bullied at

school feel sad .... are you ever bullied or do you ever feel sad?'

- Ask about specific core symptoms of depression, such as low mood and irritability, as listed.
- Ask about functioning at home and at school.
- Exclude a physical illness such as hypothyroidism.
- A short mood and feelings questionnaire (MFQ) may be helpful as part of the assessment, and also to monitor ongoing care.<sup>6</sup>
- A mood diary and mood timeline may help to assess the course of the mood and triggers.
- A detailed developmental and family history will elicit further risk and protective factors.
- Where possible and appropriate, additional information may be obtained from other people who know the child well, such as the class teacher. Obtain permission from the child and carers before obtaining collateral information.
- Determine the level of care. If the depression is mild, it may be managed on an outpatient basis by the general practitioner or primary care nurse. A

**Table 2. Factors increasing the risk of suicide**

- Increased age
- Sex – males tend to complete suicide more frequently than females
- Presence of hopelessness
- Previous history of suicide attempts
- Completed suicide in a family member
- Presence of psychosis
- Access to lethal weapons, with limited social support
- History of aggression and impulsivity
- Exposure to negative life events
- Substance abuse

moderate or severe depression may need a referral to a child and adolescent psychiatric service for further outpatient or even inpatient admission. The level of severity of the depression, risk factors for suicide and family/environmental support should all be kept in mind before considering admission.

- Always assess suicidal behaviour, self-harm or harm to others. Not all self-harming behaviour has suicidal intent. Adolescents who engage in repetitive self-harming such as cutting may be doing so to relieve negative affect and not with suicidal intent. It is crucial to evaluate risk and protective factors such as a supportive family<sup>1</sup> (Table 2).

The potential for homicidal behaviour should also be assessed. For both suicidal and homicidal behaviour it is important to restrict access to lethal weapons such as guns. Always assess for negative life events, as these may contribute to the maintenance of the depressive episode.

**Treatment**

All children and adolescents should be offered psycho-education, supportive management and involvement of the family and school where possible. Psycho-education involves education about the symptoms, causes and different treatment options for depression. Written information, websites and information about local support groups should be given to the family. Supportive treatment includes active listening and reflection, restoration of hope, problem solving and coping skills. Encouragement for ongoing treatment is offered as part of the treatment package.<sup>1</sup> Schedule activities and encourage small new tasks that are enjoyable and rewarding. Encourage a healthy diet and exercise.

Two forms of psychotherapy have some evidence to suggest their efficacy, namely cognitive-behavioural therapy (CBT) and interpersonal therapy (IPT).

- CBT is the most frequently used, either individually or in a group. CBT starts with psycho-education and includes self-monitoring, e.g. diary keeping, challenging cognitive distortions and activity scheduling. Psycho-education, supportive therapy and some CBT principles may be managed at primary care level when the depression is believed to be mild or moderately severe.
- IPT addresses problem relationship areas, such as role conflict, transitions or losses.<sup>3</sup>

Current evidence suggests that mild to moderate depression with mild psychosocial impairment and the absence of clinically significant psychosis or suicidality responds to psychological therapy without medication. If the depression persists beyond 4 - 6 weeks or is severe, antidepressant medication may be required. Current evidence suggests that the selective serotonin re-uptake inhibitor (SSRI) fluoxetine is the treatment of choice for adolescents between the ages of 13 and 18 years. It should be used extremely cautiously in children younger than this as there is no clear evidence for its use in such cases. As with all medication, the dose should be low (sometimes starting as low as 5 mg) and increased to a therapeutic dose of 20 mg, which may be increased up to 40 mg in older adolescents. Always check the response with the adolescent and parent or carer. Start low and go slow and give adequate doses for long periods. Continue for 6 months to 1 year after remission. Always check outcomes with the child and adolescent. Concerns have been raised about an increased risk of suicide in adolescents taking antidepressant medication. While there may be a subgroup of adolescents (particularly those who are agitated and suicidal) who show an increased risk of suicidal ideation after the use of SSRIs, the consensus seems to be that the benefits of treatment with an SSRI outweigh the risks<sup>1</sup> (Table 3).

Adolescents and children with severe depression with high levels of co-morbidity and psychosocial stressors should be referred to specialist child and adolescent psychiatry services. There is limited evidence for specific relapse prevention strategies, but recognition of stressors and early symptom identification with early reassessment and treatment (either psychological or medication or both) seem beneficial.<sup>4</sup> Once medication has led to remission it should be continued for at least 6 months, possibly up to 12 months. Maintenance treatment may continue for a further year. There are no clear guidelines as to the duration of maintenance treatment, and consultation with a child and adolescent psychiatrist may help to make a decision. Except for fluoxetine, which has a long half-life, medication should be slowly tapered off.<sup>1</sup> Monitor for recurrence of depression.

**Table 3. Side-effects of SSRIs**

**Common side-effects:**

- Headaches
- Gastrointestinal symptoms such as stomach ache and diarrhoea
- Sleep changes such as sedation or insomnia
- Sweating
- Sexual side-effects
- Tremor
- Diastolic hypertension

**Uncommon side-effects:**

- Activation with increased impulsivity, irritability, agitation and silliness
- Bipolar switching
- Suicidality
- Serotonin syndrome
- Bleeding

Any therapeutic intervention should involve the family, mainly the parents/carers. While there is little empirical evidence for the use of formal family therapy, the parents will always be involved in the child's care and treatment plan and be able to monitor improvement, provide support and be part of a safety plan.

**Prevention**

There is limited evidence to show the effectiveness of primary preventive programmes. Targeting at-risk populations and children with dysthymia and anxiety produced modest results.<sup>1</sup>

It is also important to identify and treat any pre-existing depression in mothers (and presumably fathers) of such children. Looking at lifestyle changes (such as regular sleep, exercise, coping plan for stress such as meditation, exercise and social activities) may also contribute to prevention of depression.

In summary, if left untreated, depression in children and adolescents may be a debilitating condition that has an impact on their well-being and development. Although there is still much that is unknown about the treatment, it is clear that early recognition and intervention

can dramatically improve the lives of those affected by this disorder.

References, websites and recommended books available at [www.cmej.org.za](http://www.cmej.org.za)

**IN A NUTSHELL**

- Depression occurs in children and adolescents.
- The sex ratios are equal in children, but twice as many females as males develop depression in adolescence.
- Symptoms of depression are similar to those in adulthood and include low mood, sleep and appetite changes, activity level changes, irritability and ADHD-like symptoms.
- A decline in school performance and interest in usually pleasurable activities occurs.
- Mild to moderate depression responds to supportive therapy, CBT or IPT.
- Severe depression requires the use of medication, and fluoxetine is the SSRI of choice.
- Assess for suicide risk and protective factors.
- Monitor regularly and if responsive to treatment continue for at least 6 months.

**SINGLE SUTURE**

*Farmyard antibiotics linked to superbugs*

Dosing livestock with antibiotics can be bad for farmers' health. A strain of MRSA that causes skin infections and sepsis in farm workers evolved its resistance to antibiotics inside farm animals. The ST398 strain of MRSA first appeared in 2003 and is prevalent in USA livestock. Humans who pick it up from animals can become dangerously ill, but it cannot yet spread from human to human.

A team led by Paul Keim of the Translational Genomics Research Institute in Phoenix, Arizona, sequenced the genomes of 88 closely related strains of *Staphylococcus aureus*, the bug that can become MRSA. Their findings suggest that ST398 was originally a harmless strain living in humans, which migrated into livestock where it acquired antibiotic resistance.

For some time microbiologists have been concerned that giving large amounts of antibiotics to livestock can promote antibiotic resistance. Keim's study provides a powerful example, says Ross Fitzgerald of the University of Edinburgh, UK.

Earlier this year the USA Food and Drug Administration announced new restrictions on using preventive antibiotics in livestock, but the rules cover a small subset of drugs constituting just 0.2% of antibiotics used on farms. As a result they are not expected to do much good.

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