COMMENTARY

# Childhood depression

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**Abstract**

Depression in children and adolescents is associated with more lifetime episodes, more suicide attempts, greater comorbidities and poorer quality of life. The tenth edition of the International Statistical Classification of Diseases and Related Health Problems (ICD 10) assumes that the psychopathology of depression in childhood and adulthood is similar. The symptoms must cause impairment in functioning or cause clinically significant distress. Suicide is the third leading cause of death for 15 to 24 year olds and the sixth leading cause of death for five to 15 year olds. Genetics is most predictive factor. Neuroimaging have shown the amygdala functioning to be affected in depressed subjects. Adoption studies have supported the role of environmental factors. Cognitive theories include the idea of learned helplessness and the idea of cognitive distortion. The persons have certain distortions like personalisation, selective abstraction, arbitrary inferences and overgeneralisation. Alcohol or drug abuse, involvement in gangs and cults, attempted suicide are common consequences. About one third develop bipolar disorder. There is increased recognition of the continuity between childhood major depression and depression in adulthood. Fluoxetine alone or in combination with cognitive behaviour therapy (CBT) is superior to placebo in various studies. The benefits of antidepressants in youth outweigh the potential risk from suicidal ideation or attempts. The two most studied treatment modalities for depression are CBT and interpersonal psychotherapy. Depression is a strong predictor of suicide attempts or completion. It is dangerous but highly treatable condition.

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## Introduction

Depression is a common and important psychiatric disorder in children and adolescents. Earlier the term 'masked depression' was used. Only after 1990s it is recognised as disorder frequently occuring in children.[1] It is associated with more lifetime episodes, more suicide attempts, greater comorbidities and poorer quality of life.

The tenth edition of the International Statistical Classification of Diseases and Related Health Problems (ICD 10) assumes that the psychopathology of depression in childhood and adulthood is similar.[2] The text revision of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) includes major depressive disorder (MDD), dysthymic disorder and depressive disorder not otherwise specified (NOS). Specifiers are used for clinical status - mild/moderate/severe, with/without psychotic features, partial/full remission, chronic with catatonic/melancholic/atypical.[3]

Diagnostic criteria include two weeks period of either depressed or irritable mood or a loss of interest or pleasure along with at least four of the following symptoms - weight loss, weight gain, failure to make expected weight gain; increase or decrease in appetite; insomnia or hypersomnia; psychomotor agitation or retardation; fatigue or loss of energy; feelings of worthlessness or excessive guilt; diminished ability to think or concentrate; recurrent thoughts of death, suicidal ideation. The symptoms must cause impairment in functioning or cause clinically significant distress.

## Epidemiology

Prevalence of MDD in children is approximately two percent. In adolescent, rates increase to four to eight percent. Gender ratio is 1:1 in children. With puberty, girls are two to three times more likely to be depressed than boys. Family history increases risk to three times. As many as one in every 33 children and one in eight adolescents may have depression (U.S. Center for Mental Health Services [CMHS] 1996). Once a young person has experienced a major depression, he or she is at risk of developing another depression within the next five years (CMHS 1996). Two-thirds of children with mental health problems do not get the help they need (CMHS 1996). Suicide is the third leading cause of death for 15 to 24 year olds and the sixth leading cause of death for five to 15 year olds.

**What causes depression?**

**Genetics**: Most predictive factor. There is increased risk of depression in relatives of depressed children (odds ratio 3.98). Twin studies have shown depression to be moderately heritable with rates of 31 to 42 percent. Parental MDD is associated with greater severity, longer episode duration, more impairment and more recurrences. Grandmother's depression is also associated with depression in child.[4]

**Neurobiology**: Dexamethasone suppression test (DST) indicates abnormality of hypothalamic-pituitary-adrenal (HPA) axis. Growth hormone axis abnormality has been found in prepubertal depressed children. The effectiveness of antidepressant medication proves the monoamine hypothesis of depression. Neuroimaging have shown the amygdala functioning to be affected in depressed subjects. Shorter rapid eye movement (REM) latencies, longer sleep latencies, higher number of REM periods, increased REM time are the sleep abnormalities found in depressed children and adolescents.

**Environmental influences**: Adoption studies have supported the role of environmental factors. Family factors are parental substance abuse, poor marital adjustment, parent-child conflict, lack of family cohesion. Life stressors are abuse, neglect, death of a parent, psychosocial adversities.

**Psychological theories**: Psychodynamic theories assume that a real or imagined loss leads to the development of depression. Freud says it is due to introjections of a lost object. Lewinson *et al*. in 1976 describes depression as an individual's inability to experience reinforcement by his own environment.[5] Cognitive theories include the idea of learned helplessness and the idea of cognitive distortion.

**Cognitive theories**: Seligman's theory of learned helplessness – Depressed individual experiences success or failure as entirely independent of his own influence and behaviour. The persons have certain distortions like personalisation, selective abstraction, arbitrary inferences and overgeneralisation. Beck's cognitive theory – Negative self appraisal, negative perspective, negative expectations.

**When do parents bring their children for help?**

Deterioration in child's adaptive behaviour at home and school, when the child expresses his or her despair, when the child has fallen victim to a devastating drug abuse problem.

**Evaluation of depressive symptoms**

**Sadness**: Do you feel sad? How often do you feel sad? When do you feel sad? How bad does it get? What is the worst it has ever been? How long does it last? When do you feel sad, what do you feel like doing? When do you feel sad, is there anything that helps you to feel better? How often do you cry? When you feel like crying, what comes to your mind?

**Constitutional dysregulation of affect**: This problem starts early in life. Manifested by irritability, temper tantrums, low tolerance for frustration, unhappiness and limited response to soothing and loving care. Akiskal described the concept of temperament dysregulation, also known as subaffective temperament.[6] Moody behaviour, angry outburst and explosive episodes must be explored.

**Irritability, the prevailing mood**: Children identify this mood as soon as they wake up in the morning. They are hyperactive, anything can set them off and any demand is upsetting and any expectation too much for them. How often do you feel grouchy? What does it take for you to feel grouchy? When do you feel grouchy, how long do you feel like that? Is there anything that makes the grouchy feelings go away? Do you have a temper? What happens when you lose your temper? Questions exploring potential aggression against self, others or against environment.

**Guilt feeling**: Is there anything for you to feel bad about? Is there anything you feel you need to be punished for? Sometimes it may become psychotic.

**Emotional withdrawal**: Do you have any friends? How are you getting along with your friends? Do you have a best friend? How much time do you spend with your best friend? Do you enjoy your friends? What kind of groups or fun activities do you participate in?

**Anhedonia**: When was the last time you felt happy? In a given week, how many days do you feel happy? What kinds of things can you do to feel happy? Is it okay for you to be happy?

**Hopelessness**: Behaviours that indicate the child feels there is nothing to live for anymore. Unremitting suicidal behaviour. Child's characteristic and disheartened response is, "I don't care" or "It doesn't matter."

**Sleep disturbances**: Initial, middle and late insomnia. Depressed children fall asleep during school or invert their biorhythm. Tardiness and absenteeism from school may be revealing.

**Other symptoms**: Tiredness, appetite disturbance, difficulty in concentration, deterioration in academic performance, poor motivation.

**Common consequences**: Alcohol or drug abuse, involvement in gangs and cults, attempted suicide.

**Comorbidities**: Attention-deficit/hyperactivity disorder (ADHD), anxiety disorders, conduct disorder,

oppositional defiant disorder, substance abuse, obsessive-compulsive disorder (OCD).

**When to suspect bipolarity?**

About one third develop bipolar disorder. There is positive family history, psychomotor retardation, psychotic or delusional features, hypersomnia. Onset is rapid rather than insidious presentation.

**Assessment instrument**

Children's Depression Inventory (CDI), Children's Depression Rating Scale Revised (CDRS-R), National Institute of Mental Health Diagnostic Interview Schedule for Children (NIMH-DISC), Child Health Questionnaire.

**CDRS-R**: Seventeen item clinician administered scale. It assesses cognitive, somatic, affective and psychomotor symptoms. It is rated on a scale of one to seven for some items and one to five for other items. Total score of 113. Typically a score of 45 or greater is considered significant.

**CDI**: Measures symptoms of depression among children and adolescents (ages seven to 17). It has 27 items. Each item is scored from zero to two, with 0=absence of symptoms, 1=mild symptoms and 2=definite symptoms. Five subscales – negative mood, interpersonal problems, ineffectiveness, anhedonia, negative self-esteem.

**Sample items from the Children's Depression Inventory**

Negative Mood Subscale: I am sad once in a while (0), I am sad many times (1), I am sad all the times (2).

Anhedonia Subscale: I have fun in many things (0), I have fun in some things (1), Nothing is fun at all (2).

**Differential diagnosis**: Adjustment disorder, bereavement, substance use or withdrawal, bipolar depression.

**Course and prognosis**

Mean length of an episode is eight months. Recovery rate is quite high, more than 90 percent. Relapse rates are between 34 and 50 percent. Recurrence rates are high, ranging from 20 to 60 percent. Risk factors for relapse or recurrence are severity of illness, suicidality, comorbid disorders, residual symptoms, family conflict, history of sexual abuse, low socioeconomic status. Twenty to 40 percent are at risk of developing bipolar disorder. There is increased recognition of the continuity between childhood major depression and depression in adulthood. In a follow up study 18 percent of school aged children continued depression in adulthood.

**Pharmacological treatment**

Fluoxetine is the only medication to have Food and Drug Administration (FDA) approval. Fluoxetine alone or in combination with cognitive behaviour therapy (CBT) is superior to placebo in various studies. Other selective serotonin reuptake inhibitors (SSRIs) that have proven efficacy are citalopram and sertraline. Common side effects are nausea, abdominal pain, headaches, dry mouth, insomnia and sexual dysfunction.

**FDA warning and suicidality**

FDA has directed manufacturers to add a black box warning on use of antidepressant in children and adolescents. These medications increase risk of suicidal thoughts and behaviour in children and adolescents as evidenced by various studies. But the benefits of antidepressants in youth outweigh the potential risk from suicidal ideation or attempts. Informed consent should include purpose of treatment, description of treatment process, benefits and risk of the proposed treatment and alternative treatments.

**Medication treatment algorithm**

First stage is treatment with an SSRI (fluoxetine, citalopram or sertraline). Start with low initial dose. Dose to be increased by four weeks if there is no symptoms' improvement. Wait for eight to ten weeks and then move to stage two i.e. treatment with an alternative SSRI. If there is no improvement then stage three i.e. treatment with different class of antidepressant (venlafaxine, mirtazapine, duloxetine, bupropion). Stage four is reassessment of diagnosis and treatment consultation.

**Psychotherapy**

The two most studied treatment modalities for depression are CBT and interpersonal psychotherapy. Others are supportive therapy, family therapy and active involvement of school.

**Cognitive behaviour therapy**: Focuses on cognitive distortions and behavioural deficits. It is based on Beck's cognitive model of depression. Twelve to 16 sessions are considered helpful in mild to moderate depression. When combined with SSRI the response rates increase.

***Case report***

*Sixteen years old girl presented to an ear, nose and throat (ENT) hospital requesting a cosmetic operation for her nose because she felt it was ugly and disfiguring. The doctors were unable to perceive any abnormality and refused the operation. The patient subsequently withdrew from all social activities and isolated herself. If she had to go to town, she would cover her nose with her hand. She avoided entering shops and public places.*

*In the family she was apathetic, neglected her appearance and wore only black cloths. She was admitted for inpatient child and adolescent treatment because of depressed mood and attempted suicide.*

***Evaluation of cognitive distortions***

*After I took the tablets to kill myself, I vomited. My mother thought I had an upset stomach and did not notice how I really felt. A mother who loves her child notices something like that. Therefore she doesn't care about me: 'arbitrary inference.'*

*Yesterday my father was in a bad mood. He was probably in that mood because he couldn't bear looking at my ugly face: 'personalisation.'*

*I won the sports event, but anyone could have done that with a little bit of practice: 'minimisation.'*

*My nose is too big therefore I cannot accept other parts of my body either: 'maximisation.'*

*When I came back to school after the holidays, a fellow pupil ignored me. That proved that no one in school likes me: 'overgeneralisation.'*

*Either one has a nice nose and looks attractive or one is ugly and looks unattractive: 'dichotomous thinking.'*

*Cognitive therapy concentrates on changing things in the "here and now." The therapist plays an empathic and active role by asking questions. This helps the patient to recognise, examine and alter his fixed cognitions and become more realistic in his ways of thinking.*

*Patient (P) - When I went to the fair, everybody looked at me because of my big nose.*

*Therapist (TH) - How do you know they were looking at your nose? Did you ask someone?*

*P - I didn't ask anyone. But lots of young people came and asked why I had been away for so long.*

*TH - Did they perhaps look at you because they hadn't seen you for such a long time?*

*P - Um. They wanted to know if I would like to do something together with them next weekend.*

*TH - Would you invite someone whom you don't like and who you think is ugly?*

*P - No, I don't think I would. May be they do like something in me after all.*

**Techniques employed**

Emotional training: patients are allowed to explore their own emotional world.

Self-control methods: self-observation, self-appraisal and self-reinforcement.

Activating the patient: making timetable for all activities.

Social skills training: verbal and nonverbal skills.

**Interpersonal psychotherapy**: Focuses on the relationship between depressed symptoms and interpersonal relationships. Four areas of focus are loss, interpersonal disputes, role transition and interpersonal deficits. For adolescents focus on development issues such as separation from parents, authority figures, peer pressures.

**Depression and suicide**

Depression is a strong predictor of suicide attempts or completion. Seventy nine percent of youth with attempted suicide reported severe depression. Increased suicidal behaviour risk is predicted by greater psychopathology, more life stresses and particular stressors. Recent exposure to suicide, a breakup of a romantic relationship, a pregnancy event and posttraumatic stress disorder increases individual's risk.

**Evaluation**

Pfeffer recommended that all suicidal ideas and actions of children should be taken seriously and evaluated thoroughly and repeatedly.[7] "What" nature of suicidal behaviour, what the patient wishes to do, what he or she expects will happen if the action is accomplished. Explore alternative plans the patient may have. Lethality of the attempt. "How" plans the child has conceived or steps the child may have already taken. Prior suicidal behaviour and current plans. "When" and "where" relate to time and place planned for the suicide. Common precipitating factors should be enquired. In relation to "why," the psychological factors that motivate the patient's suicidal ideation and behaviour should be explored.

**Factors to be explored regarding suicidal attempts**

History of impulsivity, history of prior suicide attempt, precipitating events, presence of depression, guilt, hopelessness or anger, presence of cognitive deficits, presence of maladaptive coping, interpersonal difficulties, family conflicts, personal losses, peer rejection, physical illness or other personal factors, pact with a person who committed suicide, imitation with recent suicidal behaviour.

**Management issues**

**Acute phase 1**: intensive care unit, treatment of physical complications, assessment of motives for suicide, initial approach to the family. Goal is acute medical care, assessment of remaining suicide risk,

building a trusting relationship and diagnosis of familial background.

**Acute phase 2**: psychiatric ward, observation and care by nursing staff, regular interviewing, decision about the type and frequency of sessions. Goal is to prevent self-injurious impulses, intensify the relationship with the therapist and reduce social isolation.

**Recovery phase**: psychiatric ward, extended range of actions, continued individual therapy sessions, development of a suicide prevention plan, continued group therapy. Goal is stabilise therapeutic relationship, change conditions leading to attempted suicide and prepare social reintegration.

**Remission phase:** OPD or clinic, observation at home, frequent sessions, possibly supported by telephone calls, continued family sessions, help with social reintegration. Goal is prevention of any further attempt and activation of co-therapist.

## Conclusion

It is dangerous but highly treatable condition. Enough time should be given to every child and adolescent. A possibility of depression should always be kept in mind.

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