Depression in childhood and adolescence

OUTLINE

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INTRODUCTION

- Depressive disorders in youth represent a signi ficant public health concern,

- prevalent and result in long-term adverse e ffect on the individual's cognitive, social, and psychological development.

- Cytryn was the first person to report depressive symptoms (sadness, withdrawal, impairment in functioning, social isolation, helplessness and hopelessness) in young adolescents with chronic medical illnesses.

Epidemiology

- preschool-age are estimated 0.3 percent of community samples, and 0.9 percent in clinic settings.

- The prevalence of major depression in school age children is 2 to 3 percent.

- In adolescents, prevalence rate of major depression is from 4 to 8 percent

- The prevalence of persistent depressive disorder in children ranges from 0.6 to 4.6 percent and in adolescence increases to 1.6 to 8 percent.

Epidemiology

- Children and adolescents with persistent depressive disorder have a high likelihood of developing major depressive disorder at some point after 1 year of the persistent depressive disorder.

- The rate of developing a major depression on top of persistent depressive disorder (double depression) within a 6-month period of persistent depressive disorder is estimated to be about 9.9 percent.

epidemiology

✤ Indian epidemiological studies

- South India: Srinath *et al*. reported a **prevalence** of 0.1% in the 4-16 year age group and no child in the age group 0-3 was diagnosed to have depression.

- North India reported an annual **incidence rate** of 1.61/1000 children in a community based study on school children.

- Clinic-based studies have reported a prevalence rate of 1.2 to 9.2% for the affective disorders, amongst which unipolar depression was the commonest category in most of the studies

Aetiology

- **Genetic Studies**

- **Familiality**

Genetics

- interaction between genetic susceptibility and environmental stressors contributes to an emerging major depression
- associated with brain volume: hippocampal region.
- The serotonin transporter promoter polymorphism (5-HTTLPR) have become a focus of investigation.
- The fi ndings that the combination of a decreased volume in the hippocampus is associated with the S-allele of the serotonin transporter gene polymorphism and early adverse events in depression,
- ***represent a mechanism by which the risk of major depression is mediated by both genetics and environmental stressors.***

familiality

- Twin studies have demonstrated that major depression is approximately 40 to 50 percent heritable.

- Studies suggest younger children, environmental infl uences more dominant adolescence heritability may play a larger role.

- Family studies suggest that for children with a parent with a history of major depressive disorder, the risk of developing an episode of major depressive disorder is doubled, whereas with two depressed parents, the risk of an episode of major depressive disorder quadruples in the o spring before age 18 years.

Neuroimaging

- Neuroimaging studies of depressed youth demonstrate:
  - smaller frontal white matter volumes,
  - larger frontal gray matter volumes,
  - larger lateral ventricle volumes.

- Depressed youth have been found to have a blunted amygdala response to fearful faces compared to non- depressed children and depressed children have been found to have smaller amygdale volumes compared to healthy controls.

clinical features

Cat

- characterised by persistent and pervasive sadness, anhedonia, boredom or irritability
- that is functionally impairing,
- relatively unresponsive to pleasurable activities, interactions and attention from other people.
- In one of the first studies of the clinical picture of depression in preschoolers, anhedonia was found to be characteristic of depression in these children (Luby, Heffelfinger, Mrakotsky, *et al.*, 2003).
- Functional impairment is most salient in distinguishing depression.

- Depressive disorders exist on a continuum,
- classified on the basis of severity, pervasiveness and presence or absence of mania.
-
- At the mildest end of the spectrum are adjustment disorders with depressed mood, which occur in response to a clear stressor.

- A major depressive episode in a prepubertal child is likely to be manifest by somatic complaints, psychomotor agitation, and mood- congruent hallucinations.

- Anhedonia ,hopelessness, psychomotor retardation, and delusions, are more common in adolescent and adult major depressive episodes.

- Adults have more problems than depressed children and adolescents with sleep and appetite.

- In adolescence, negativistic or frankly antisocial behaviour and the use of alcohol or illicit substances can occur.

- Feelings of restlessness, irritability, aggression, reluctance to cooperate in family ventures, withdrawal from social activities, and isolation from peers often occur in adolescents.

- School di fficulties are likely.

- Depressed adolescents may become less attentive to personal appearance and show increased sensitivity to rejection by peers, and in romantic relationships.

- Children may refer to depressive feelings in terms of anger, or feeling “mad” rather than sad.

- Clinicians should assess the duration and periodicity of the depressive mood

- The younger the child, the more imprecise his or her time estimates are likely to be.

- Mood disorders tend to be chronic if they begin early.

- Functional impairment associated with a depressive disorder in childhood extends to practically all areas of a child’s psychosocial world;

- school performance and behaviour, peer relationships, and family relationships all su ffer

- school performance is invariably a ffected by a combination of

- diffi culty concentrating,
- slowed thinking,
- lack of interest and motivation,
- fatigue,
- sleepiness,
- depressive ruminations,
- preoccupations.

- Children and adolescents with severe forms of major depressive disorder may have hallucinations and/or delusions.

- Psychotic symptoms are thematically consistent with the depressed mood, occur with the depressive episode, and do not include certain types of hallucinations (such as conversing voices and a commenting voice, which are specifi c to schizophrenia).

- Depressive hallucinations usually consist of a single voice speaking to the person from outside his or her head, with derogatory or suicidal content.

- Depressive delusions centre on themes of guilt, physical disease, death, nihilism, deserved punishment, personal inadequacy, and (sometimes) persecution.

- These delusions are rare in prepuberty, probably because of cognitive immaturity, but are present in about half of psychotically depressed adolescents.

Diagnosis

- DSM-5, major depressive episode consist of at least five symptoms, for a period of 2 weeks,
- including either (1) depressed or irritable mood, or (2) a loss of interest or pleasure.

- Additional symptoms may include

1. failure to make expected weight gains,
2. daily insomnia or hypersomnia,
3. psychomotor agitation or retardation,
4. daily fatigue or loss of energy,
5. feelings of
6. worthlessness or inappropriate guilt,
7. diminished ability to think or concentrate,
8. and recurrent thoughts of death.

- These symptoms must produce social or academic impairment.
- the symptoms cannot be due to the direct e ffects of a substance (e.g., alcohol) or a general medical condition.

Dysthymia

In children and adolescents it consists of a depressed or irritable mood for most of the day, over a period of at least 1 year.

DSM-5 notes that in children and adolescents, irritable mood can replace the depressed mood

two or more of the following symptoms must accompany the depressed or irritable mood:

- low self-esteem,
- hopelessness,
- poor appetite or overeating,
- insomnia or hypersomnia,
- low energy or fatigue,
- poor concentration or di fficulty making decisions.

- During the year of the disturbance, these symptoms do not resolve for more than 2 months at a time.

- In addition, the diagnostic criteria for dysthymic disorder specify that during the rest year, no major depressive episode emerges.

- DSM-5 provides specifiers for early onset (before 21 years of age) or late onset (after 21 years of age).

- common for a child with persistent depressive disorder for more than 1 year to develop a concurrent episode of major depressive disorder.

- In this case, both depressive diagnoses apply (double depression).

- Current knowledge suggests that the longer, more recurrent, and less directly related to social stress these episodes are, the greater the likelihood of future severe mood disorder.

- When minor depressive episodes follow a signfi cant stressful life event by less than 3 months, it may be classified as an adjustment disorder.

Cyclothymia

- chronic and fl ucctuating mood disturbance of hypomanic symptoms and periods of depressive symptoms that do not meet diagnostic criteria for major depressive disorder.

- The diff erence in the DSM-5 diagnostic criteria for youth with cyclothymic disorder compared to adults is that a period of 1 year, rather than 2 years, of numerous mood swings is applied.

- episode of major depressive disorder occurs after a diagnosis of cyclothymia has been present for at least 2 years, a concurrent diagnosis of Bipolar II disorder is made.

Bereavement

- state of grief related to the death of a loved one, which presents with an overlap of symptoms characteristic of a major depressive episode.

- Typical depressive symptoms associated with bereavement include feelings of sadness, insomnia, diminished appetite, and, in some cases, weight loss.

- Grieving children may become withdrawn and appear sad, and they are not easily drawn into even favourite activities.

- In DSM-5, bereavement is not a mental disorder; however, uncomplicated bereavement is included as a category documented with a *v* code, indicating that a normal grief reaction to the loss of a loved one has become a focus of clinical attention.

- Children in the midst of bereavement period may also meet the criteria for major depressive disorder.

- Symptoms indicating major depressive disorder exceeding typical bereavement include

- intense guilt related to issues beyond those surrounding the death of the loved one,
- preoccupation with death other than thoughts about being dead to be with the deceased person,
- morbid preoccupation with worthlessness,
- marked psychomotor retardation,
- prolonged serious functional impairment,
- hallucinations other than transient perceptions of the voice of the deceased person.

- The duration of bereavement varies; in children, the duration may depend partly on the support system in place.

- For example, a child who must be removed from home because of the death of the only parent in the home may feel devastated and abandoned for a long period.

- Children who lose loved ones may feel a sense of guilt, that the death may have occurred because they were “bad” or did not perform as expected.

Differentials

BPCWD

- Important differential diagnosis
- characterised by past or current mania or hypomania.
- Often, young bipolar patients present with either rapid cycling or a mixed
- Detection of bipolarity requires care, persistence and longitudinal follow-up.

Anxiety Disorder

- Associated with significant dysphoria that is relieved if the anxiogenic situation is eliminated.

- The social withdrawal of depression should be differentiated from the avoidance of social situations because of anxiety.

ADHD

- much earlier onset.

- Altered concentration is not only a symptom of depression, but is also a key feature of ADHD.

- Concentration difficulties in ADHD are not associated with changes in mood-related symptoms.

- Children with ADHD often become demoralized because of peer rejection and difficulties at school.
- This demoralization can be ascribed to ADHD in absence of other depressive symptoms.

conduct disorder ODD

- Irritability is a prominent symptom of conduct and oppositional disorders an

- In the absence of other mood symptoms, this symptom is more likely to be caused by the behavioural disorder than depression.

Substance use

- Substance abuse can mimic mood disorder by
- disrupting sleep, con- centration, motivation and appetite;
- these conditions frequently co-occur with mood disorders in clinical practice.
- A careful history and, when warranted, a drug toxicology screen is often the only way to detect this important and serious condition.

Eating Disorder

- Patients with eating disorders often show lassitude and dysphoria, which can in part be attributed to poor nutritional status.

- A diagnosis of current depression in an eating disordered patient should not be made until adequate nutritional status has been restored.

Medical disorders

- Hypothyroidism/Hyperthyroidism
- Anemia
- Inflammatory Bowel Disease
- Lupus or other collagen vascular disease
- Stroke, tumor, or other central nervous system disorder
- Infectious etiologies: HIV, hepatitis
- Malnutrition
- Tumors
- Medications
- Beta-blockers
- Corticosteroids
- Neuroleptic medications

Comorbidity

comorbidity

Comorbidity is the rule rather than the exception

May result from shared etiology, or as a cause or consequence of depression.

Comorbid conditions affect both the course and outcome of depression.

Anxiety is frequently a precursor of mood disorder. Anxiety and depression may be comorbid because of a shared genetic diathesis.

ADHD and depression are also often comorbid.

comorbidity

- Depression and behavioral disorders and substance abuse attributable to shared family risk factors, exposure to family violence and discord, and parental substance abuse .

- longitudinal studies suggest a bidirectional causality.

- Depression increases the likelihood of initiation and development of substance abuse problems, but substance abuse problems lead to life events that increase the likelihood of depression.

- Conduct disorder is frequently comorbid with depression, particularly in prepubertal samples.

Management

Investigations

- No laboratory test is useful in making a diagnosis of a major depression.
- Screening test for thyroid function
- ***The psychiatric interview is the "gold standard" for assessment of depressive diagnoses***
- Interviews are conducted with both the parent and the child.
- Parents are usually better informants about past history treatment and symptoms that are tied to external behaviour, such as social withdrawal, decline in school performance and agitation.
- Children are better reporters about internal experiences and thoughts, such as suicidal ideation, anhedonia, guilt, psychosis and lack of motivation.

- **Rating scales** for depressive symptoms administered by the clinician to the child and parent may be helpful in the evaluation.
- The most commonly used is the **Children's Depression Rating Scale–Revised (CDRS-R)**
- 17-item assessment that is analogous to the Hamilton Depression Rating Scale
- The measure ranges from 17 to 113, with 40 or above associated with clinically significant depression, and less than 29 with symptomatic remission.
- Discriminant and convergent validity, as well as sensitivity to treatment effects, have been demonstrated .
- limitations: emphasizes neurovegetative rather than cognitive symptoms
- less than straightforward anchor points for the suicide ideation item.

- **The Mood and Feelings Questionnaire (MFQ)**
- The only self-report scale validated for both children and adolescents
- 37-item and 13-item form.
- This measure also has a parent report version.
- Internal consistency, convergent and discriminant validity have been reported, with the ability to discriminate depression from anxiety and from conduct disorder.

- **The Children's Depression Inventory (CDI)**
- Developed as a downward extension of the Beck Depression Inventory (BDI),
- Self, parent and teacher report form
- The CDI is highly correlated with other measures of depression.

- **The Center for Epidemiological Studies–Depression Scale (CES-D)**
- One weakness is that it does not have a suicide ideation item.

- **The Beck Depression Inventory (BDI)** is very widely used in studies of adolescents
- good screen for depressive disorders, is sensitive to treatment effects and may be a more effective screen for major depression than the CES-D (Dierker, Albano, Clarke *et al.*, 2001; Roberts, Lewinsohn, & Seeley, 1991).
- It has strong psychometric properties of the adolescent instruments but emphasizes the cognitive component of depressive disorders.

- **The Reynolds Adolescent Depression Scale** (RADS).

- **The Preschool Feelings Checklist** is a 16-item parent report

Risk Assessment and Treatment Planning

As a general framework, clinicians need to consider the following hierarchy of priorities:

- Life-threatening issues (e.g., suicidality, homicidality, exposure to domestic violence, intravenous drug use);
- Therapy-threatening issues (hopelessness about treatment, chronically depressed parent who is unable to bring the child for treatment); and
- Symptom and functionally oriented treatment.

Management

Indications for hospitalisation

1. Those who express suicidal ideas of a definite sort, or who have made a attempt of suicide
2. Those who harm themselves, or threaten to harm others
3. Subjects who have problems with treatment compliance or delivery, leading to unduly protracted treatment
4. Those who require electroconvulsive therapy
5. Those who neglect themselves substantially, particularly their fluid intake
6. Those who require removal from a hostile social environment

Management

Psychoeducation: key elements for parents and patients. Depression is an illness and not the fault of the patient or family

How to recognize and monitor depressive symptoms, detect early relapse and recurrence

Modal course, in order to have reasonable expectations for pace and extent of recovery

Risks and benefits of different treatment options, in order to make an informed decision

How to collaborate in development of a plan for relapse prevention, continuation and maintenance treatment

Principles of prescribing practice in childhood and adolescence

Target symptoms, not diagnoses.

Begin with less, go slow and be prepared to end with more

Multiple medications are often required in the severely ill.

Allow time for an adequate trial of treatment.

Where possible, change one drug at a time. Monitor outcome in more than one setting.

Patient and family medication education is essential.

Psychological intervention

The National Institute for Health and Clinical Excellence guidelines recommend : psychological intervention should be considered as the first-line treatment for child and adolescent depression.

Mild-to-Moderate depression:Psycho-educational programmes, non-directive supportive therapy, group cognitive behavioural therapy (CBT) and self-help.

The NICE guideline recommends the introduction of medication in conjunction with psychological treatments if there is failure to respond to psychological treatment.

Pharmacotherapy

- **Fluoxetine** is the first-line pharmacological treatment

- Fluoxetine and **escitalopram** are the only antidepressants approved by the US Food and Drug Administration (FDA) for adolescents and fluoxetine is the only FDA- approved medication for pre-pubertal children.

- elimination half-life of fluoxetine is 1–4 days and 7–15 days making it a preferable SSRI for adolescents who are less likely to experience withdrawal effects when omitting a dose or stopping the medication abruptly.

- Body weight influences fluoxetine concentrations and starting doses of medication have to be lowered in children.

- half-lives of most antidepressants are much lower in children than in adolescents and higher doses may have to be administered.

- Fluoxetine should be started at a low dose of 10 mg daily and increased weekly until a minimum effective dosage of 20 mg daily is achieved.

- Patients and their parents/carers should be informed about the potential side-effects associated with SSRI treatment and know how to seek help in an emergency.

- Any pre-existing symptoms that might be interpreted as side-effects (e.g. agitation, anxiety, suicidality) should be noted.

- if no response to fluoxetine an alternative SSRI such as **sertraline** and **citalopram** may be used cautiously by specialists.

- Sertraline, citalopram and escitalopram are quickly metabolised by children and twice daily dosing should be considered.

- Sertraline, citalopram and escitalopram should also be started at low doses and titrated weekly up to minimum effective doses; sertraline 50–100mg; citalopram 20mg and escitalopram 10mg.

- Paroxetine is considered to be an unsuitable option.

- **Alternative SSRIs and other antidepressants**

- TCA: are not effective in pre-pubertal children and marginal efficacy in adolescents. Side-effect burden associated is considerable.
- Vertigo, orthostatic hypotension, tremor and dry mouth limit tolerability.
- Cardiotoxic in young people than in adults.
- Baseline and on-treatment electrocardiograms (ECGs) should be performed.
- There is no evidence that adolescents who fail to respond to SSRIs will respond to tricyclics.
- There is little evidence for the use of mirtazapine but it is sometimes used in clinical practice where sleep is a problem.

- Omega-3 fatty acids may be effective in childhood depression but evidence is minimal.

- Severe depression that is life-threatening or unresponsive to other treatments may respond to electroconvulsive therapy (ECT).

- The effects of ECT on the developing brain are unknown.

- Currently case reports suggest that ECT may be a relatively safe and useful treatment for adolescents

- It is important that the dose is increased slowly to minimise the risk of treatment-emergent agitation and suicidal thoughts and acts.

- Patients should be seen at least weekly in the early stages of treatment.

- Side-effects linked to SSRIs include sedation, insomnia and gastrointestinal symptoms and, rarely, can induce bleeding, serotonin syndrome, activation and mania.

- Overall, the potential benefits of treatment with antidepressants outweigh the risks in relation to suicidal behaviours.

- SSRI medication should be administered for a minimum of 4–6 weeks
- if the child fails to respond and remains symptomatic a dose increase should be considered.
- A switch to another medication should be made if there is insufficient improvement after approximately 10–12 weeks (switch earlier if there are *no* signs of improvement)
- Medication effectiveness should be initially monitored at weekly intervals and its effectiveness re-evaluated every 4–6 weeks.

Duration of treatment and discontinuation of SSRIs

- To consolidate the response to the acute treatment and avoid relapse, treatment with fluoxetine should continue for at least 6 months and up to 12 months.

- There is a significant reduction of the risk of relapse with a continuation of treatment for 6 months.

- Antidepressant dose should be tapered slowly to minimise discontinuation symptoms. Ideally this should be done over 6–12 weeks.

- Because of fluoxetine's long duration of action it can probably be safely tapered over 2 weeks.

Refractory Depression

- There are no clear clinical guidelines for the management of treatment-resistant depression in adolescents

- Evidence from studies: adolescents who failed to respond to treatment with one SSRI may improve when switched to another SSRI or venlafaxine when the pharmacotherapy was combined with concurrent CBT.

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- venlafaxine group had more side-effects

Risk of BPCD

behavioural activation in response to the administration of SSRIs.

3–8% of young people prescribed SSRIs present with heightened mood, restlessness .

This disinhibitory response needs to be differentiated from hypomania or mania.

Early bipolar illness should be suspected when

- the presentation is one of severe depression,
- associated with psychosis
- rapid mood shifts
- the condition worsens on treatment with antidepressants.

Continued

- studies suggested that between 20% and 40% of children and young people presenting with depression will develop bipolar affective disorder when treated with antidepressants.

- In some studies in bipolar patients treatment with antidepressants is associated with new or worsening rapid cycling in as many as 23% of patients.

- ***It seems that the younger the child, the greater the risk.***

- In the case of emergent mania early treatment with atypical antipsychotics and mood stabilisers should be considered.

Summary

Line	Drugs
First Line	**Fluoxetine+CBT**
Second Line	Escitalopram+CBT
Third Line	Sertraline, citalopram
	Venlafaxine (less well tolerated)[SEP]Mirtazapine (where

Cognitive behaviour therapy

- CBT is based on the theory of depression that holds that depressed individuals show “distortions” in their thinking and information processing, tending to emphasize the negative aspects of a situation and to underemphasize the positive.

- CBT treatments for depression focus on interrupting this cycle of negative thinking, depressed mood and maladaptive behavior, through a variety of cognitive techniques and behavioral skill-building exercises.

- Central to CBT is ***cognitive restructuring***, that is, making the patient aware of negative “distortions” and teaching the individual how to counteract them, with sub- sequent relief of depression.

- Another key component of CBT is ***behavioral activation***; for example, encouraging patients to normalize their routine and engage in rewarding activities, even if they do not feel like it at the time.

CBT

- The most commonly studied intervention for depressed adolescents is

- the CBT-based course Coping with Depression for Adolescents (CWD-A), a group-administered structured program that includes psychoeducation, pleasant activity scheduling, social skills training, problem-solving and cognitive restructuring.

Interpersonel therapy

- IPT-A conceptualizes depression as occurring within an interpersonal matrix, and targets resolution of interpersonal stress that seems to be associated with the adolescent's depression.

- The types of problems typically targeted by IPT-A are loss, role disputes, role transitions, interpersonal skills deficits or adjustment to a single-parent family.

- The goal of treatment is to replace conflictual, unfulfilling relationships with meaningful lower-conflict relationships.

Episode Length and Recovery

- Depression is a chronic and recurrent condition.
- The duration for depressive episodes is 3–6 months for community samples and 5–8 months for referred samples.
- In both clinical and community samples, around 20% of adolescents with a lifetime history of depression have a persistent depression of 2 years or greater.

course and prognosis

Greater episode length is associated with

- comorbid dysthymic disorder,
- comorbidity with anxiety disorder or substance abuse,
- greater initial severity of the depressive condition,
- current or past suicidal ideation or behavior,
- chronicity and number of episodes of parental depression and
- other disorders and family discord.

course and prognosis

Risk for Recurrence

- 40% in 2 years, and 72% in 5 years (Kovacs, 1996)
- Prepubertal depressed children with a family history of depression have a similar risk of recurrence.

Risk factors:

- early onset of mood disorder in a parent,
- lack of complete recovery (defined as either subsyndromal depression or return to a dysthymic baseline),
- pre-existing social dysfunction,
- history of sexual abuse and family discord

course and prognosis

- younger age at onset,
- increased number of previous episodes,
- double depression,
- increased severity of index episode,
- increased psychosocial stressors,
- psychotic features in the index episode,
- ongoing residual symptoms,
- poor treatment compliance,
- female gender,

conclusion

- Over the last 3 decades, there has been significant amount of research, which has shown that children and adolescents can suffer from depression, similar to that of adults.

- It is also evident that childhood depression is a chronic and relapsing illness that doesn't remit spontaneously and therefore requires early identification and treatment.

- Comorbidity is the rule.

conclusion

- "D" should cover **duration** of symptoms, **depressed mood**, **defiance & disagreeability** and **distant** or withdrawal behavior.

- "U" **undeniable drop** in educational performance/ grades or interest in school, which is a frequent manifestation in youth.

- "M" **morbid and strange behavior** which may be indirect manifestation of suicidal behavior and suicide itself in youth.

- "P" **pessimism**, which is a hallmark of depression in children and adolescents.

- "S" **somatic symptoms**, particularly abdominal pain and headaches are common in young people.

conclusion

- Psychiatric detailed evaluation
- Assessment scales
- Fluoxetine + CBT
- Duration 12 months.


thank you