CHAPTER 14

CHILD AND ADOLESCENT PSYCHIATRY

PRINCIPLES FOR THE SAFE AND EFFECTIVE PRESCRIBING OF PSYCHOTROPIC MEDICATION

Child and adolescent psychiatry patient management involves a systemic, holistic approach requiring a multidisciplinary team. A skilled clinician performs a thorough clinical diagnostic evaluation in keeping with a recognised classification system like DSM 5 and then includes the pharmacological management as part of a holistic treatment plan.

» Multiple aspects need to be considered when prescribing psycho-active medication for children and adolescents, e.g. co-morbidities, home environment stability.
» Complicated cases, uncertain diagnoses and poor treatment response are indications for referral to a Child and Adolescent Psychiatrist for evaluation.
» Children and adolescents may require higher dosages of psycho-active medication per unit of body weight compared to adults to achieve similar blood levels and therapeutic efficacy.
» Psycho-education of the patient and the family is vital.
» Regular monitoring of effectiveness and the need to continue medication should be done with the view to tapering and discontinuing medication after 6 months to a year, unless the medication is for a chronic condition, e.g. ADHD or epilepsy.
» Baseline assessments require a medical history and physical examination. Baseline laboratory investigations, pregnancy testing, drug screening, EEG and ECG should be done where indicated.
» Psychotropic medication is generally well tolerated by children and adolescents. Lowest dosages should be initiated and increased as clinically indicated. Side effects and adherence should be monitored. Monotherapy is ideal. However, childhood-onset psychiatric disorders can be severe and may present with multiple co-morbidities needing polypharmacy. Preferably, add one medication at a time to monitor side effects and effectiveness. Change medications one-at-a-time.

COMMON MEDICATIONS USED IN PSYCHIATRY AND THEIR SIDE EFFECTS

Selective serotonin re-uptake inhibitors (SSRIs) (e.g. fluoxetine)

Adverse effects in children and adolescents

» Agitation, behavioural disinhibition or 'activation', headache, skin rashes, GIT disturbances (decreased appetite, nausea, diarrhoea) and CNS effects, e.g. insomnia, tremor, and sedation.
» Increased risk of suicidality is associated with the use of SSRIs in depressed children and adolescents.
» A less common but potentially serious side effect is serotonin syndrome, which presents, in increasing severity, as restlessness, tremor, shivering, myoclonus, confusion, convulsions and death.
» Less commonly, SSRIs can induce bleeding and mania and may reduce the seizure threshold.

Special precautions/investigations/monitoring

» Adverse events may be dose related; reduce where indicated.
» Monitor for:
  > suicidal ideation/agitation,
  > 'manic switch' (SSRIs may precipitate mania), and
  > serotonin syndrome symptoms (high dosages of SSRIs or the simultaneous use of two SSRIs in cross tapering).

Tricyclic antidepressants (e.g. amitriptyline)

Adverse effects in children and adolescents

» Sedation, anticholinergic side effects, cardiac side effects, convulsions, coma.
» May be more cardio-toxic in children than in adults.

Special precautions/investigations/monitoring

» Dangerous and potentially fatal in overdose. Avoid in children and adolescents with pre-existing cardiovascular disease.
» Do not use in conjunction with other drugs that prolong the QT interval.
» Baseline and on-treatment ECGs should be performed in patients with pre-existing cardiovascular conditions or a positive family history.
» May precipitate mania.

Stimulant medications (e.g. methylphenidate)

Adverse effects in children and adolescents

» Common: loss of, or decreased appetite, poor weight gain and insomnia.
» Common initially: headache, abdominal pain.
» Dysphoria or emotional blunting at high doses.
» May precipitate or worsen tics.
» May, at higher doses, lower the seizure threshold and precipitate seizures in children and adolescents suffering from epilepsy.

Special precautions/ investigations/monitoring

» Monitor blood pressure, pulse rate, height and weight.
» Monitor for mood changes and the development of tics.
» Use with caution in children who suffer from epilepsy.
» Exclude absence seizures prior to initiating stimulants (clinical/EEG).
» Perform an ECG prior to initiating stimulants where a cardiac history or clinical cardiac pathology is present.

'Atypical' antipsychotics (e.g. risperidone, olanzapine)

Adverse effects in children and adolescents

» Common in children/adolescents: insomnia, agitation, anxiety, headache, sedation and extrapyramidal side effects (EPSE), e.g. acute dystonia, Parkinsonism, akathisia, tardive dyskinesia.
» Weight gain and metabolic syndrome.
» Sedation at higher dosages.
» Hyperprolactinaemia (gynaecomastia, galactorrhoea, menstrual disturbances) – particularly risperidone.
» Hyponatraemia due to polydipsia or SIADH – particularly risperidone.

Special precautions/investigations/monitoring

» Monitor weight.
» Monitor prolactin level, glucose and lipid profile in patients initiated on atypical antipsychotics.

'Typical' antipsychotics (e.g. haloperidol)

Adverse effects in children and adolescents

» EPSE: acute dystonia, akathisia, tardive dyskinesia, Parkinsonism.
» Life threatening side effect: Neuroleptic malignant syndrome (NMS): fever, altered mental status, muscle rigidity, autonomic dysfunction, raised creatinine kinase and white cell count. In case of suspected NMS, stop all antipsychotics.

Special precautions/investigations/monitoring

» Monitor for EPSE.
» Avoid long-term use where possible due to the risk of irreversible tardive dyskinesia.

Benzodiazepines (e.g. lorazepam, diazepam, clonazepam)

Adverse effects in children and adolescents

» Sedation, restlessness and paradoxical reaction of disinhibition, especially in children and adolescents with intellectual disability, neurological illnesses or brain trauma.

Special precautions/investigations/monitoring

» Not for long-term use.

Mood stabilisers (e.g. lithium carbonate, sodium valproate/ valproic acid)

Lithium carbonate:

Adverse effects in children and adolescents

» Drug interactions – preferably avoid (or monitor closely): NSAIDS, ACE inhibitors, angiotensin receptor blockers, antithyroid agents, thiazide and loop diuretics, xanthines and SSRIs.
» Dose-related effects: ataxia, lethargy, thirst, GIT intolerance.
» *Toxicity: confusion, vomiting, tremor, convulsions, coma.*
» Non-dose-dependent: GIT, tremor, weight gain, goitre (hypothyroidism), hypoparathyroidism, nephrogenic diabetes insipidus, EPSE, polyuria.

Special precautions/investigations/monitoring

» Blood investigations: FBC, urea, creatinine and electrolytes, CMP, TSH and BHCG.
» Cardiac investigation: ECG.
» Ongoing monitoring: lithium levels 1–3 monthly, TSH and creatinine 6–12 monthly.

Valproic acid/Sodium valproate:

Adverse effects in children and adolescents

» Common: GIT (nausea, vomiting, constipation, diarrhoea).
» Dose-related effects: fatigue, sedation, ataxia.
» Uncommon: hair loss, skin rashes, increased appetite, tremor, amenorrhoea, aggression, depression.
» Rare: hepatotoxicity (potentially lethal), pancreatitis, hyperammonaemia.
» Pregnancy: facial anomalies, neural tube abnormalities.

Special precautions/investigations/monitoring

» Check liver functions and ammonia levels prior to initiation and then 6 monthly.
» Blood levels must be done in the morning prior to the morning dosage if there are concerns about compliance and toxicity. No routine indication.
» Monitor for signs of hepatotoxicity.

Caution

The choice of agent for girls and women of childbearing potential must be carefully considered. Valproate should be avoided in adolescent women and preadolescent girls who are likely to remain on treatment into their childbearing years unless other treatment is ineffective or effective contraception is in place. This is due to the risk of adverse developmental outcomes to the foetus.

If the decision is made to use valproate in patients in this population, complete the 'Acknowledgement of Risk' form:
http://www.sahpra.org.za/wp-content/uploads/2020/08/6.28_Valproate_Annual_Risk_Acknowledgement_Form_Dec18_v1.pdf

14.1 SEDATION OF AN ACUTELY DISTURBED CHILD OR ADOLESCENT

GENERAL AND SUPPORTIVE MEASURES

» Ensure safety of the patient, caregivers, staff members and the environment.
» De-escalation techniques are first-line to try to calm the patient.
» Physical restraint should only be used to protect the patient and caregivers; for the shortest period and should be monitored every 10–20 minutes.
» A thorough physical examination must be done.
» Exclude general medical causes, e.g. intracranial pathology like encephalopathy, seizures, metabolic disease, medication adverse effects and intoxication.

Investigations to exclude medical causes:

» Baseline BMI.
» Baseline laboratory work-up: FBC, urea and creatinine, electrolytes, AST, ALT, TSH, fasting glucose.
» Monitor for extrapyramidal side effects, e.g. acute dystonia.

MEDICATION TREATMENT

For children under the age of six years:

Sedation with psychotropic agents should only be considered in extreme cases and only after consultation with a specialist.

For children over the age of six years:

- Lorazepam, oral/IM.
  - 0.05–0.1 mg/kg/dose.
  - Onset of action: 20–40 minutes.
  - Always consider the use of oral lorazepam first.

If sedation is inadequate:

- Haloperidol, IM.
  - 0.025–0.05 mg/kg/day.
  - Onset of action: 20–30 minutes.
  - Maximum dose: 0.15 mg/kg/day.

In case of an acute dystonic reaction secondary to haloperidol:

- Biperiden, IM/slow IV, 0.05–0.1 mg/kg.
  - 1–6 years: 2 mg.
  - 7–10 years: 3 mg.
  - > 10 years: 5 mg.

14.2 ELIMINATION DISORDERS

F98.0; F98.1

DESCRIPTION

Enuresis and encopresis involve the inappropriate passing of urine or faeces in childhood or adolescence. The diagnoses are based on developmental age (not chronological age) and passing of urine/faeces may be voluntary or involuntary.

14.2.1 ENURESIS

F98.0

DESCRIPTION

Enuresis is bedwetting after the age or developmental level of 5 years.
Primary mono-symptomatic (nocturnal) enuresis refers to incontinence during sleep only. It is of great importance to differentiate between mono-symptomatic enuresis and enuresis with associated bladder dysfunction during daytime, as they are distinct conditions with different treatment modalities.

Enuresis is a benign condition with a 15% spontaneous annual resolution rate. Intervention must carry minimal risk or have minimal side effects. The cure rate of 'treatment' should be significantly greater than the spontaneous cure rate before it can be considered effective.

DIAGNOSTIC CRITERIA (DSM 5)

» Enuresis involves the repeated voiding of urine into the bed or clothing, whether involuntary or intentional.
» Occurs more than twice per week for 3 months or causes significant distress or impairment in social or academic functioning.
» Chronological or mental age of 5 years.
» Exclude medical illness, medication or substance usage.
» Classified as nocturnal, diurnal or both.

GENERAL AND SUPPORTIVE MEASURES

» Assess the type of enuresis, e.g. primary nocturnal enuresis (mono-symptomatic).
» Take a thorough history, including a family history of elimination disorders, aspects of toilet training, trauma, abuse, anxiety and current medications use, e.g. SSRIs, risperidone, or diuretics.
» Perform medical examination and investigations (e.g. urine test strip) to exclude UTI, constipation, obstructive sleep apnoea, diabetes mellitus, diabetes insipidus, neurological and structural abnormalities.
» If sexual abuse is suspected, refer to a social worker.

» Secondary enuresis may benefit from psychotherapy in cases where trauma is suspected, or parent-child conflict appears to be prominent.
» Primary mono-symptomatic enuresis has a high rate of spontaneous resolution (about 15% per year).
» Management of primary nocturnal enuresis may involve one or a combination of interventions. Education and motivational therapies are usually tried initially. More active intervention is warranted as the child gets older, social pressures increase and self-esteem is affected.
» General education and advice about bedwetting should be provided to all children and families of children with mono-symptomatic enuresis. It is important to emphasize that enuresis is not the child's fault; provide practical suggestions to reduce the impact of bedwetting; encourage regular voiding during the day and just before going to bed; and provide guidelines about the timing and type of fluid intake.
» Motivational therapy (e.g. a star chart) is usually the first intervention for younger children (between five and seven years) who do not wet the bed every night and are mature enough to accept some responsibility for treatment. If motivational therapy fails to lead to improvement after three to six months, active interventions may be warranted.
» Address the manner in which the enuresis is managed at home. The parents should not be punitive but reward when the child remains dry. The child should assist in cleaning up the wet bedding or clothing.
» Ensure the child drinks 6–8 glasses of water daily.
» Ensure regular voiding 5–6 times per day.
» No diapers/nappies as these may lower self-esteem.
» Bladder training and lifting can also be used.
» Enuresis alarms are the most effective long-term therapy and have few adverse effects. They can be expensive and require a long-term commitment (usually three to four months).
» A bell-and-pad system is effective but only use in children > 7 years and who are well motivated.

MEDICATION TREATMENT

If general measures have failed after 6 months, consult with a specialist for consideration of desmopressin, which is supported only for short-term use in low esteemed patient with enuresis:

- Desmopressin, oral, 200–400 mcg at night for 3 months. (Specialist consultation).
    - Adverse effects include fluid retention, hyponatraemia and cerebral oedema.

REFERRAL

» Suspected underlying systemic illness or chronic kidney disease.
» Persistent enuresis in a child > 7 years.
» Referral to psychiatry for secondary enuresis, or for primary enuresis in a child > 7 years where basic measures fail and general medical disorders have been excluded.

14.2.2 ENCOPRESIS

F98.1

DESCRIPTION

When the passage of faeces is involuntary, there is usually constipation, impaction and retention with subsequent overflow. The constipation may develop due to psychological reasons, e.g. anxiety around defaecation that leads to avoidant behaviour or physiological reasons, e.g. paradoxical contraction of the external sphincter. Deliberate encopresis may be part of a disruptive behaviour disorder, e.g. oppositional defiant disorder. Constipation can lead to enuresis, urinary reflux and chronic UTIs.

DIAGNOSTIC CRITERIA (DSM 5)

Involves the involuntary or intentional, repeated passage of faeces into inappropriate places. This occurs at least once each month for 3 months and the chronological or mental age of the child is at least 4 years. Substances, medications and medical illnesses need to be excluded. Encopresis is specified as either with or without constipation and overflow incontinence.

GENERAL AND SUPPORTIVE MEASURES

» History to include medical and psychological factors.
» Assess the type of encopresis.
» Medical examination and investigations, e.g. urine test strip.
» Refer to paediatrician for further work-up as needed.
» Treat constipation with diet and exercise.
» For the retentive subtype – educate the child and parent about bowel function and use laxatives if necessary.
» Management requires educational, psychological and behavioural approaches, e.g. timed daily intervals on the toilet with rewards.

14.3 ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

F90.0-F90.9

DESCRIPTION

Children with ADHD display developmentally inappropriate degrees of inattention, impulsiveness and hyperactivity that interfere with their functioning.

DIAGNOSTIC CRITERIA (DSM 5)

May be mild, moderate or severe:
» predominantly inattentive,
» predominantly hyperactive-impulsive, and
» combined.

Inattention: (9 symptoms)
> Failing to give close attention to details or making careless mistakes.
> Having difficulty sustaining attention in tasks or play.
> Not listening when spoken to directly.
> Failing to complete tasks or follow-through on instructions.
> Often losing things for tasks or activities.
> Often having difficulty organising tasks and activities.
> Being forgetful in daily activities.
> Being easily distracted by extraneous stimuli.
> Avoiding or being reluctant to engage in tasks requiring sustained mental effort.

Hyperactivity: (6 symptoms)
> Often fidgeting, squirming or tapping.
> Leaving his/her seat.
> Running or climbing inappropriately.
> Is "on the go", or behaves as if "driven by a motor".
> Is unable to play quietly.
> Talking excessively.

Impulsivity: (3 symptoms)
> Blurts out answers.
> Has difficulty waiting his/her turn.
> Interrupts or intrudes on others.

» Onset of several symptoms before 12 years.
» Requires 6 symptoms of inattention or hyperactivity/impulsivity.
» Symptoms have persisted for 6 months to a degree inconsistent with their developmental level.
» Symptoms present in two or more settings.
» Interferes with or reduces the quality of social, academic or occupational functioning.
» Exclude psychotic or other psychiatric disorders.

Note:
» Common co-morbid conditions include specific learning disabilities, oppositional defiant disorder, conduct disorder, depression (particularly in girls) and substance use disorders (SUDs), as well as epilepsy.
» Certain conditions may mimic ADHD such as, developmental disorders, motor coordination problems, intellectual disability, post-traumatic and post infectious encephalopathy as well as anxiety and mood disorders.
» Girls may more commonly present with inattentive-type ADHD. The diagnosis may, therefore, be missed.

GENERAL AND SUPPORTIVE MEASURES

Identify and treat co-morbidities such as depressive disorders early, as this may prevent the onset of substance misuse (to 'self-medicate') and other risk-taking behaviours during adolescence.

» Parent counselling:
  > Rules and limit-setting.
  > Positive reinforcement of pro-social behaviour.
  > Consistent routine.
  > Restrictive diets and OTC medications are of no proven value.
» Behaviour-based interventions:
  > Reward positive behaviour.
  > Improve social awareness and adjustment.
» Social skills groups.
» Identify learning difficulties and refer to educational support services.

MEDICATION TREATMENT

For children under the age of six years:

Refer for diagnostic assessment by a child and adolescent psychiatrist or paediatrician.

For children over the age of six years:

Initiate treatment using the short-acting methylphenidate formulation until effective dosage achieved. Reduce the dose or withdraw methylphenidate if a paradoxical increase in symptoms occurs.

- Methylphenidate, short-acting, oral, 1 mg/kg/day.
  - Initial dose: 5 mg, 2–3 times daily, at breakfast, lunch and no later than 14h30 (approximately every 3 to 3½ hours).
  - Increase the dose at weekly intervals by 5–10 mg until symptoms are controlled. Use the lowest effective dose.
  - Recommended maximum daily dose: 60 mg (adult dose)/maximum of 2 mg/kg/day. Any dose greater than 60 mg/day should be prescribed by a child psychiatrist or paediatrician.

LoE III[1]

Contraindications to methylphenidate

Absolute**:**

» Hyperthyroidism
» Glaucoma
» Concomitant mono-amine oxidase inhibitor therapy.
» There is no absolute contraindication to the concomitant use of methylphenidate with antiepileptic drugs (AEDs) or antiretroviral therapy (ART). However, exercise caution with the prescribed dosages, be aware of potential drug-drug interactions and monitor for adverse effects.

Relative**:**

» Hypertension

» Cardiac abnormality – needs ECG and cardiology assessment.
» Anxiety
» Agitation
» Epilepsy
» Tics

Discontinuation of treatment

» If no objective improvement of symptoms has been observed, e.g. using an ADHD rating scale, after appropriate dosage adjustments over a two-month period, discontinue treatment and refer to a specialist.
» To establish whether on-going treatment is indicated in a child on long-term stimulant therapy, trial periods off treatment should be part of the management plan.
» Indications for a trial off treatment:
  > treatment duration in excess of 2–3 years,
  > adolescent age (particularly late adolescence), and
  > a substantial reduction in core ADHD symptoms, evident in more than one setting.
» Trials off treatment should be planned at times least disruptive to the child's academic and social functioning, i.e. time the treatment withdrawal outside of major commitments such as examinations.
» Duration of treatment withdrawal can be for one week to a month, depending on whether stability is maintained.
» Treatment can be withdrawn abruptly, with no need to taper dosages.
» Obtain feedback from teachers and parents (verbal feedback, completion of parent and teacher ADHD rating scales), before and during the trial off treatment.
» Assess the child and document the mental state (symptoms of ADHD), before and during the trial off treatment.
» Monitor 3-monthly for one year.
» Re-initiate treatment (at last dosage prescribed), if:
  > there is a significant re-emergence of symptoms after one week off treatment and/or during the month off medication, or
  > after a longer trial off medication, e.g. at 3-monthly follow up visits, there is evidence of symptom re-emergence.

Note:

Adolescents are more likely to present with poor concentration, inattentiveness or impulsivity, rather than hyperactivity.

» Hyperactivity symptoms usually decrease but inattention symptoms may persist during adolescence.
» Remission is achieved in 30% of patients during adolescence.

REFERRAL

» No response to treatment after 8 weeks.

» Presence of comorbid psychiatric conditions with severe functional impairment: oppositional defiant disorder, mood disorders, anxiety disorders, debilitating tics.
» Presence of uncontrollable seizures.
» HIV infected status.

14.4 MOOD DISORDERS

F31–F34

14.4.1 DEPRESSION IN CHILDHOOD AND ADOLESCENCE

F32-34

DESCRIPTION

The clinical picture of a child and adolescent with major depressive disorder is similar to that of adults except that there are some developmental differences, i.e. 'atypical' symptoms:

» mood is often irritable rather than sad,
» failure to gain weight, rather than weight loss,
» somatic complaints, e.g. headaches and abdominal pain,
» behavioural and academic/school problems occur frequently,
» withdrawal from social activities,
» vegetative symptoms are less common than in adults,
» suicide attempts increase in number and tend to be more lethal, and
» impairment of functioning worsens with increasing age.

The first episode of bipolar disorder can present with depression in adolescents. Bipolar depression is often associated with a more sudden onset, psychomotor retardation, anxiety symptoms, and in some instances, psychotic symptoms and a family history of bipolar disorder.

A number of depressed children and adolescents have co-morbid psychiatric disorders. The most frequent co-morbid diagnoses are:

» Anxiety disorders.
» ADHD
» Oppositional defiant disorder.
» Trauma/Post traumatic stress disorder (PTSD).
» Substance misuse, particularly in adolescents.

DIAGNOSTIC CRITERIA (DSM 5)

The clinical presentation of major depressive disorder includes 5 symptoms present for a period of 2 weeks and represents a change from previous functioning. Changes in either mood or interests must be present:

» depressed mood reported or observed by others,
» decreased pleasure or interest in activities,
» vegetative symptoms including sleep/appetite disturbances,
» fatigue/loss of energy,

» poor concentration/indecision,
» psychomotor agitation/retardation,
» excessive, inappropriate guilty ruminations or feelings of worthlessness, and
» thoughts of death and suicide, suicide attempt or suicide plan.

Symptoms cause distress or impairment in functioning.
Exclude other psychiatric disorders, medical conditions, the effects of substances and manic/hypomanic episodes.

A suicide attempt is self-inflicted harm where the intention is to die.
Increased suicide risk is associated with the following:

- male gender,
- adolescence,
- previous attempts and lethality of method used,
- family history of suicide,
- presence of a psychiatric or chronic medical illness,
- social isolation and poor family support, and
- associated substance abuse or physical aggression.

Consider the following in a child presenting with depressed mood:

» Exclude underlying medical conditions such as:
  > infections, e.g. HIV, cerebral cysticercosis, encephalitis and tuberculous meningitis,
  > neurological conditions, e.g. temporal lobe epilepsy, brain tumours, and
  > endocrine disorders, e.g. thyroid conditions, diabetes mellitus.
» Exclude medication-induced mood disturbances, e.g. corticosteroids, antiretrovirals (zidovudine, efavirenz), high doses of stimulant medication and barbiturates.
» Exclude substance abuse, including alcohol and methamphetamine ('tik').
» Assess for suicide risk.

GENERAL AND SUPPORTIVE MEASURES

» Psychological interventions are considered 'first line' for mild to moderate depression and should be administered by a suitably skilled clinician:
  > Cognitive behavioural therapy (CBT): to address distorted, negative cognitions, maladaptive patterns of behaviour and communication.
  > Psychodynamic/play therapy: to identify feelings, improve self-esteem and social interactions.
» Additional interventions:
  > Family counselling: to address family disharmony, stressors and provide psycho-education.
  > Input to school: to address academic issues and psycho-education.
  > Social worker: to investigate suspicion of child abuse or neglect.

MEDICATION TREATMENT

» If there is a failure to respond to psychotherapeutic interventions after 4–6 weeks or if the severity of symptoms increases, consider a trial of antidepressant medication, while continuing with psychotherapy and other interventions. Initiate treatment in consultation with a psychiatrist. Children 12 years and under should be referred to a child psychiatrist for the initiation of medication.
» Response to treatment should bring about a meaningful reduction in symptoms and improvement in functioning.
» Once remission is achieved, continue medication therapy for at least a further 6–12 months.

First line:

- Fluoxetine, oral, 0.5 mg/kg/day.

Fluoxetine tablets are registered in South Africa, however, may not be available in the public sector. Fluoxetine may only be available in 20 mg capsules, in which case citalopram tablets can be used initially, titrated to 20 mg and then changed to fluoxetine 20 mg if that dose has been reached.

  - Dose range: 20–40 mg daily.
  - Recommended average dose: 20 mg/day.

If there is a poor response to fluoxetine after an adequate trial of treatment, i.e. 4–6 weeks, or if significant symptoms of anxiety are present, or if the child is HIV-infected, consider an alternative SSRI.

Second line:

- Citalopram, oral, 0.4 mg/kg/day.
  - Dose range: 5–40 mg daily.
  - Recommended average dose: 10–20 mg/day.

A trial of treatment is considered ineffective if the patient presents with ongoing, significant depressive symptoms and/or suicidal ideation and where the patient has not achieved an improvement in overall level of functioning.

Be aware of the risk of bipolar 'switch' or precipitation of mania in patients with a family history of bipolar disorder.

Tricyclic antidepressants are not recommended in children due to insufficient evidence of efficacy, potential adverse cardiovascular side effects and lethality in overdose.

REFERRAL

» Poor response to an adequate trial of treatment, i.e. medication trial of 6–8 weeks in combination with psychological treatment and psychosocial interventions.
» Presence of co-morbid conditions.
» Psychotic symptoms such as delusions or hallucinations.

14.4.2 BIPOLAR DISORDER

F31

DESCRIPTION

The bipolar disorder presentation in children and adolescents differs from the adult discrete manic or depressive episodes. They usually present with mixed mood states and significant mood lability that fluctuates within a day resembling a rapid cycling pattern and rage attacks or 'affective storms'.

Short-lived episodes of exuberance are normative in children and adolescents, while temper outbursts and mood lability can present in many other psychiatric disorders, e.g. anxiety disorders, autism spectrum disorder (ASD). There is a risk of misdiagnosis or 'over-diagnosis' of bipolar disorder in children and adolescents presenting with severe aggression and 'dysregulated' moods.

DIAGNOSTIC CRITERIA (DSM 5)

Manic episode

A distinct period of abnormally and persistently elevated, expansive or irritable mood and abnormally and persistently increased goal-directed activity or energy. This should represent a significant change in the patient's baseline mental status, last for at least 1 week and be present, most of the day, nearly every day.

During the period of mood disturbance, the patient should display the following symptoms:

» Elevated self-esteem or grandiosity.
» Decreased need for sleep.
» More talkative than usual or pressured speech.
» Flight of ideas or feeling that thoughts are racing.
» Distractibility
» Increased goal-directed activity (socially, at school or hyper-sexuality) or psychomotor agitation.
» Involvement in activities with potentially painful consequences, e.g. sexual indiscretions.

Depressive episode

Similar to symptoms of major depressive episode except that the onset may be more rapid and may be associated with psychomotor retardation, anxiety symptoms and/or psychotic symptoms.

Mixed mood state

This includes the presence of a major depressive episode with at least 3 manic/hypomanic symptoms present during the depressive episode. These are more common in children and adolescents.

Causes distress or impairment in functioning.

Exclude other psychiatric disorders, medical conditions, the effects of substances and manic/hypomanic episodes.

MEDICATION TREATMENT

Acute phase treatment

» Refer patients with a suspected manic episode or suicidal ideation to a psychiatrist immediately for assessment and possible admission.
» Sedate before transfer. Refer to section 14.1: Sedation of an acutely disturbed child or adolescent.
» If no previous medication used, while awaiting admission and in consultation with a psychiatrist, initiate atypical antipsychotic and mood stabilizer.

Atypical antipsychotic:

- Risperidone, oral.
  5–12 years (under 50 kg):
  - Starting dose: 0.01 mg/kg/day.
  - Maintenance dose: 0.02–0.04 mg/kg/day.

  13–17 years:
  - Starting dose: 0.5 mg daily.
  - Maximum dose: 3 mg daily.
  - Use lowest effective dose to limit adverse long-term side effects and to facilitate adherence.
  - Increase dose by 0.25–0.5 mg daily every 1–2 weeks, depending on tolerability and age.

Mood stabiliser: lithium carbonate or sodium valproate (sodium valproate not recommended in females) or a second-generation antipsychotic (risperidone/olanzapine) with specialist consultation:

- Lithium carbonate, oral (for patients aged 12–17 years).
  - Initial dose: 20 mg/kg/day in 2–3 divided dosages. Lithium level after 5 days. Increase accordingly. Therapeutic range: 0.6–0.8 mmol/l. Be careful of narrow therapeutic margin – risk of toxicity.
  - Ensure investigations are done prior to initiation of treatment.
  - Blood investigations: FBC, U&E, CMP, TSH and BHCG.
  - Cardiac investigation includes ECG.
  - Ongoing monitoring: Lithium levels 1–3 monthly, TSH and creatinine 6–12 monthly.
  - Contraception if sexually active.
- Sodium valproate, oral (teratogenic and to be avoided in females).
  - 20 mg/kg/day divided 12 hourly.
  - Usual range: 20–30 mg/kg/day.

- Risperidone, oral.
  5–12 years (under 50 kg):
  - Starting dose: 0.01 mg/kg/day.
  - Maintenance dose: 0.02–0.04 mg/kg/day.

  13–17 years:
  - Starting dose: 0.5 mg daily.
  - Maximum dose: 3 mg daily.
  - Use lowest effective dose to limit adverse long-term side effects and to facilitate adherence.
  - Increase dose by 0.25–0.5 mg daily every 1–2 weeks, depending on tolerability and age.

- Olanzapine, oral, for children 13 years and older.
  - Initially: 2.5–5 mg once daily.
  - Increase to 10 mg daily if necessary.

LoE III[1]

Maintenance treatment

» If previously on maintenance medication: re-initiate treatment in consultation with a psychiatrist.
» Ongoing psycho-education regarding the illness, medication, compliance etc.
» Once stabilised, the patient can be referred for individual psychotherapy.
» The family may benefit from referral for family therapy.

REFERRAL

» Refer all patients with suspected bipolar disorder for an assessment by a psychiatrist.
» Sedate or stabilise prior to transfer.

14.4.3. DISRUPTIVE MOOD DYSREGULATION DISORDER (DMDD)

F34.81

DESCRIPTION

This is a new addition to DSM 5. Children and adolescents present with a history of chronic, severe, persistent irritability. The irritability presents as frequent temper outbursts with an underlying angry, irritable mood. The onset of symptoms is before 10 years and should not be applied to children with a developmental age less than 6 years. Conversion of non-episodic irritability to bipolar disorder is low. They are at higher risk of developing depressive and anxiety disorders in adulthood.

It is important to consider the differential diagnoses. These include:
» Mood disorders, e.g. major depressive disorder, bipolar disorder.

» Behavioural disorders, e.g. oppositional defiant disorder (ODD); anxiety disorders.
» Neurodevelopmental disorders, e.g. ADHD, autism spectrum disorder (ASD).
» Impulse control disorders, e.g. intermittent explosive disorder.

DIAGNOSTIC CRITERIA (DSM 5)

» Temper outbursts that are severe and recurrent that manifest verbally or behaviourally, are out of proportion in intensity and duration to the situation or provocation, are inconsistent with the developmental level and occur > 3 times per week.
» The mood between the temper outbursts is persistently irritable or angry for most of nearly every day and is observable by others.
» Symptoms must be present for > 12 months with symptom-free periods that do not exceed 3 months.
» Occurs in > 2 settings and is severe in at least one setting.
» Age of diagnosis: 6–17 years.
» Age of onset of symptoms: < 10 years.
» Exclude psychiatric disorders, medical conditions and the effects of substance use.
» There are high rates of comorbidity that include disruptive behavioural disorders, mood disorders, anxiety disorders and autistic spectrum disorders. If children meet the oppositional defiant disorder or intermittent explosive disorder criteria with DMDD, then only the DMDD diagnosis is given.

Functional consequences

DMDD is associated with significant functional impairment in all areas of patients' lives due to their extremely low frustration tolerance. This has a severe impact on family and peer relationships, academic performance and participation in extra-mural activities.

MEDICATION TREATMENT

Currently no specific treatment guidelines exist due to the lack of studies. Many patients present with ADHD and DMDD. The ADHD can be treated with methylphenidate but worsening of the mood may occur with severe aggression.

REFERRAL

» Co-morbid DMDD should be referred to a psychiatrist.

14.5 ANXIETY DISORDERS

F41.9

DESCRIPTION

Separation anxiety disorder and selective mutism are diagnostic categories previously exclusive to childhood, while social anxiety disorder (social phobia), specific phobia, panic disorder, agoraphobia and generalised anxiety disorder (GAD) present across the lifespan. Anxiety disorders are common in children and adolescents affecting 6–20%.

Medication does not form part of the primary management of separation anxiety disorder and selective mutism.

Anxiety in a child can be misdiagnosed as ADHD, as both conditions may present with increased levels of activity and problems with concentration.

14.5.1 GENERALISED ANXIETY DISORDER (GAD)

F41.1

DESCRIPTION

Excessive anxiety or worry about a number of factors or events, occurring on most days for at least 6 months. The intensity, frequency or duration of the anxiety is out of proportion to the actual likelihood or impact of the anticipated event. The individual finds it hard to control the worry and to keep worrisome thoughts from interfering with attention to tasks. During the course of the disorder, the focus of the worry may shift from one concern to another. The worries interfere with psychosocial functioning, are pervasive and distressing and often have no precipitants.

DIAGNOSTIC CRITERIA (DSM 5)

Excessive anxiety or worry that is both difficult to control and associated with 1 of the following 6 symptoms for 6 months:

» restlessness or a feeling ‘keyed-up’ or ‘on edge’,
» difficulty concentrating or ‘mind going blank’,
» irritability,
» muscle tension,
» sleep disturbance, and
» being easily fatigued.

GAD causes significant distress or impairment in functioning.

Exclude other psychiatric disorders, general medical conditions or effects of substances.

GENERAL AND SUPPORTIVE MEASURES

A suitably qualified clinician should perform these interventions.

» Cognitive behavioural therapy (CBT): aimed at changing pessimistic, anxiety-based cognitions and developing strategies to reduce anxieties and avoidant behaviour patterns.

» Behaviour therapy: relaxation, desensitisation by imagining or exposure to anxiety-provoking situations.
» Psychodynamic/supportive psychotherapy: aimed at promoting self-esteem, assertiveness and autonomy.

MEDICATION TREATMENT

- Fluoxetine, oral, 0.5 mg/kg/day.
  - Dose range: 20–40 mg daily.
  - Recommended average dose: 20 mg/day.

Fluoxetine may only be available in 20 mg capsules, in which case citalopram tablets can be used initially, titrated to 20 mg and then changed to fluoxetine 20 mg.

If there is a poor response to fluoxetine after an adequate trial of treatment, i.e. 4–6 weeks, consider an alternative SSRI.

- Citalopram, oral, 0.4 mg/kg/day.
  - Dose range: 5–40 mg daily.
  - Recommended average dose: 10–20 mg/day.

REFERRAL

» 12 years and under.
» Failure to respond after 6–8 weeks to an adequate trial of therapy and medication.
» Adverse events to fluoxetine/citalopram.

14.6 OBSESSIVE COMPULSIVE DISORDER (OCD)

F42.9

DESCRIPTION

Obsessions:
These are persistently recurring thoughts, impulses or images that are experienced as intrusive, inappropriate and not simply excessive worries about realistic problems. Children may not experience these as distressing but the obsessions may interfere with day-to-day functioning. The child may try to suppress, ignore or neutralise them with another thought or action. Obsessions are not pleasurable or voluntary.

Compulsions:
Repetitive behaviours or mental acts that a person feels driven to perform in response to an obsession or according to a rigidly applied rule in order to reduce distress or to prevent some dreaded outcome. The behaviour or mental acts are not connected in a realistic way with what they are supposed to prevent or are excessive.

Compulsions are easier to diagnose than obsessions in children, as they are observable. Most children have both obsessions and compulsions. Adult symptoms are stable over time whereas children's may be variable. The content differs and may reflect the different developmental stages. Adolescents have higher rates of sexual and religious obsessions than children, and children and adolescents have more harm obsessions, e.g. death or illness to self or loved ones, than adults.

Comorbid conditions:
» rheumatic fever,
» streptococcal throat infection [paediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS)], and
» tic disorders, ADHD, anxiety and depressive disorders, ODD, and impulse-control disorders.

DIAGNOSTIC CRITERIA (DSM 5)

This requires the presence of obsessions, compulsions or both that are time-consuming or cause distress or functional impairment. General medical illnesses, other psychiatric disorders and the effects of substances should be excluded. Specifiers include the degree of insight and presence of tic disorders.

GENERAL AND SUPPORTIVE MEASURES

» Provide cognitive behavioural therapy (CBT), if available and appropriate.
» Exposure-based interventions (e.g. contact with 'dirt' in a child with contamination fears), thought stopping techniques, 'response prevention' (i.e. blocking of rituals).

A suitably qualified professional should carry out these interventions.

MEDICATION TREATMENT

OCD in children and adolescents is often resistant to treatment and high dosages of medication are often needed for long periods. Full therapeutic effect may take up to 8–12 weeks. Dosages should be gradually increased.

- Fluoxetine, oral, 0.5 mg/kg/day.
  - Dose range: 20–40 mg daily.
  - Recommended average dose: 20–40 mg.

However, fluoxetine may only be available in 20 mg capsules, in which case citalopram tablets can be used initially, titrated to 20 mg and then changed to fluoxetine 20 mg.

OR

- Citalopram, oral, 0.4 mg/kg/day.
  - Dose range: 5–40 mg daily.
  - Recommended average dose: 10–20 mg/day.

Duration of treatment: 6 months after resolution of OCD symptoms.

REFERRAL

» Twelve years and under.
» Poor response to adequate trial of cognitive behavioural therapy and medication, i.e. persistence of obsessions and/or compulsions, with impairment in functioning after 12 weeks.
» Co-morbid conditions.

14.7 POST TRAUMATIC STRESS DISORDER (PTSD)

F43.1

DESCRIPTION

The core features of experiences which place patients at risk of PTSD are:
» Exposure to a traumatic event (directly, witnessing or learning of it happening to someone else).
» There is threat of serious injury or death.
» Violent personal assault, such as sexual violence.

DSM 5 DIAGNOSTIC CRITERIA

» Intrusive symptoms.
» Persistently re-experiencing:
  > Recurrent memories and dreams of the traumatic event.
  > Dissociative reactions, e.g. flashbacks, reliving experiences.
  > Physiological or psychological distress to traumatic cues.
» Marked avoidance:
  > Avoiding memories, thoughts or feelings related to trauma.
  > Avoiding external reminders.
» Negative alterations in mood and cognitions, e.g. amnesia, detachment.
» Marked alterations in arousal and reactivity, e.g. hypervigilance, sleep disturbance.
» Significant distress/impairment.
» Duration more than a month.

GENERAL AND SUPPORTIVE MEASURES

Debriefing in the immediate aftermath of the trauma is not recommended, often having worse outcomes.
Psychological interventions should be made available, including:
» general supportive counselling,
» cognitive behavioural strategies, and
» group and family interventions.

MEDICATION TREATMENT

Consider medication when other interventions have not been effective or there is severe impairment in functioning.

- Fluoxetine, oral, 0.5 mg/kg/day.
  - Dose range: 20–40 mg daily.

However, fluoxetine may only be available in 20 mg capsules, in which case citalopram tablets can be used initially, titrated to 20 mg and then changed to fluoxetine 20 mg.

If poor response, consider higher doses in consultation with a child psychiatrist.

OR

- Citalopram, oral, 0.4 mg/kg/day.
  - Dose range: 5–40 mg daily.
  - Recommended average dose: 10–20 mg/day.

REFERRAL

» Persistent symptoms despite therapy.

14.8 FEEDING AND EATING DISORDERS

F50/F98

DESCRIPTION

These disorders are characterised by a persistent disturbance of eating or eating-related behaviour that results in the altered consumption or absorption of food and has an impact on physical health or psychosocial functioning. The more common types include pica, avoidant/restrictive food intake disorder, anorexia nervosa, bulimia nervosa and binge-eating disorder.

14.8.1 PICA

F98.3

DESCRIPTION

This is the persistent eating of non-nutritive, non-food substances for more than a month, inappropriate to developmental level. The ingestion is out of keeping with cultural and social norms.

GENERAL AND SUPPORTIVE MEASURES

» Vitamin and mineral deficiencies, e.g. zinc, iron, should be excluded.
» Physical examination.
» Explore co-morbid conditions, e.g. autism spectrum disorder (ASD), intellectual disability, schizophrenia, OCD, impulse control disorders.

14.8.2 AVOIDANT/RESTRICTIVE FOOD INTAKE DISORDER

F50.8

DESCRIPTION

This is an eating or feeding disturbance that manifests by a persistent failure to meet appropriate nutritional and/or energy requirements. There may be lack of interest in food, food avoidance due to sensory sensitivity or concerns about the aversive consequences of eating. Criteria include one or more of: failure to make the expected weight gains, nutritional deficiency, dependence on enteral feeding or nutritional supplements or marked interference with psychosocial functioning. There is no lack of food, socially acceptable practice present or perceptual disturbance of body weight or shape.

GENERAL AND SUPPORTIVE MEASURES

» Exclude medical, neurological or neuromuscular disorders.
» Assess the relationship between caregiver and infant and the attachment concerns that may manifest with feeding regulatory disorders in children.
» Exclude other psychiatric disorders, e.g. OCD, MDD, factitious disorder imposed on another (previously termed 'Munchausen's by proxy').

14.8.3 ANOREXIA NERVOSA

F50.01/F50.02

DESCRIPTION

This disorder presents with restricted energy intake relative to requirements leading to a low body weight, an intense fear of gaining weight or becoming fat or behaviour that limits weight gain and a disturbance in body weight/shape perception, with poor insight into the seriousness of the low body weight. Children and adolescents may fail to make expected weight gains or maintain normal growth patterns, e.g. increased height without weight gain. The Centre for Disease Control has used Body Mass Index (BMI)-for-age below the 5th percentile as being underweight. Physiological disturbances and cessation of menses should also be considered.

The semi-starvation and purging can result in medical sequelae, even medical emergencies, e.g. arrhythmias.
Co-morbid psychiatric disorders are common, e.g. MDD, OCD.

GENERAL AND SUPPORTIVE MEASURES

» A thorough physical examination.
» Blood investigations including: FBC, U&E, CMP, TSH.
» Cardiac investigation: ECG.
» Suicide risk assessment.

MEDICATION TREATMENT

Supportive measures for medical complications including a dietician referral.

» Refer to a paediatrician for severe medical complications.
» Refer to a psychiatrist for psychiatric management.
» Medication such as fluoxetine and olanzapine should be initiated by a psychiatrist.
» Family based therapy is the gold standard of treatment for eating disorders in adolescents.

14.8.4 BULIMIA NERVOSA

F50.2

DESCRIPTION

This disorder is characterised by recurrent episodes of binge eating in which the individual eats large amounts of food in a short period with a sense of lack of control over the eating. Compensatory behaviours then follow, e.g. self-induced vomiting or laxative usage. These behaviours occur at least once a week for three months. The individual's self-evaluation is influenced by body shape and weight and their BMI may be within the normal to overweight range.

GENERAL AND SUPPORTIVE MEASURES

» A thorough physical examination.
» Blood investigations including: FBC, U&E, CMP, TSH.
» Cardiac investigation: ECG.
» Suicide risk assessment.
» Supportive measures for medical complications.

REFERRAL

» Refer to a paediatrician for severe medical complications.
» Refer to a psychiatrist for psychiatric management.

14.9 CHILDHOOD PSYCHOSIS

F09

DESCRIPTION

It is important to note that children who present with symptoms such as hallucinations, confusion and intensely aggressive or disturbed behaviour may not be psychotic or suffer from schizophrenia. Delirium should be the first diagnosis to consider, before a psychotic disorder is suspected. Failure to recognise a delirium may delay the diagnosis of the underlying medical condition or drug-related delirium and place the child at risk.

Delirium is a non-specific neuropsychiatric disorder, which indicates global encephalopathic dysfunction in medically ill patients. The core features

consist of attentional disturbances, an altered level of consciousness and diffuse cognitive deficits. It is fluctuating in nature and may present with perceptual disturbances, commonly visual hallucinations.

Any child presenting with an apparent psychosis is considered a medical emergency and should have a medical work-up before being referred to a psychiatrist. This should include FBC, U&E, LFT, TSH, drug screen, EEG and brain CT scan.

Sedate before transfer if behaviourally disturbed. Refer to section 14.1: Sedation of an acutely disturbed child or adolescent.

14.9.1 SCHIZOPHRENIA

F20.9

DESCRIPTION

Schizophrenia is a chronic psychotic disorder characterised by disturbances in thinking, perceptions, emotions and behaviour and is associated with significant functional impairment. Childhood and adolescent schizophrenia are rare.

» Very early onset schizophrenia (VEOS) is defined as the onset before age 13 years.
» Early onset schizophrenia (EOS) is defined as the onset before age 18 years.
» Onset during childhood and adolescence confers a poorer prognosis for the illness, treatment refractoriness and significant impairment in functioning.
» Similar diagnostic criteria for adults are used. However, in children, the delusions are not as bizarre or systematised as in adults. The clinical presentation in adolescents more closely resembles that in adults. The child or adolescent may not reach expected levels of interpersonal, academic or occupational functioning.

DIAGNOSTIC CRITERIA (DSM 5)

» Two or more of the following symptoms need to be present for a significant portion of time during a 1-month period. At least one of these must include items (1), (2) or (3) below:
    1. Delusions
    2. Hallucinations
    3. Disorganised speech.
    4. Grossly disorganised or catatonic behaviour.
    5. Negative symptoms, i.e. affective flattening or avolition.
» The level of functioning declines or there is failure to achieve expected levels of interpersonal, academic or occupational functioning.

» The disturbance has lasted at least 6 months with a 1-month period of previously mentioned symptoms. Prodromal, attenuated or residual features may be included in the time period.
» Exclude other psychiatric disorders, general medical conditions or effects of substances.

GENERAL AND SUPPORTIVE MEASURES

» Supportive individual and family counselling is an important part of the comprehensive treatment plan.
» The aim of individual counselling is to develop understanding of the illness, to improve coping strategies, to provide structure and limit regression.
» Family interventions focus on psycho-education and facilitating acceptance of the diagnosis to ensure adequate compliance and support for the patient.
» Educational issues include transitioning back into school after a psychotic episode and academic support.

MEDICATION TREATMENT

Pharmacotherapy is the first line treatment for psychosis in children and adolescents.

Acute phase treatment

Sedate before transfer. Refer to section 14.1: Sedation of an acutely disturbed child or adolescent.

If previously prescribed antipsychotic medication:
» Re-initiate treatment, in consultation with a psychiatrist.

If no previous medication (while awaiting admission and in consultation with a psychiatrist):

- Risperidone, oral.
  5–12 years (under 50 kg):
  - Starting dose: 0.01 mg/kg/day.
  - Maintenance dose: 0.02–0.04 mg/kg/day.

  13–17 years:
  - Starting dose: 0.5 mg daily.
  - Maximum dose: 3 mg daily.
  - Use lowest effective dose to limit adverse long-term side effects and to facilitate adherence.
  - Increase dose by 0.25–0.5 mg daily every 1–2 weeks, depending on tolerability and age.
  - Refer if doses in excess of 3 mg are required.

Maintenance phase (12–24 months)

» Gradually lower the dose of risperidone from that needed to treat the acute psychotic phase to that needed to prevent relapse and to ensure adequate adherence.

REFERRAL

» All children and adolescents for assessment and initial management.
» **Urgent**: Young children, individuals responding to command hallucinations or behaviourally-disturbed psychotic children or adolescents.

14.10 TIC DISORDERS

F95.9

DESCRIPTION

A tic is a sudden, rapid, recurrent, non-rhythmic stereotyped motor movement or vocalisation and includes the following subtypes:

» Chronic motor or vocal tic disorder.
» Transient tic disorder.
» Tourette's disorder.

Tourette's disorder is a chronic neuropsychiatric disorder that is characterised by both vocal and motor tics, and related somatosensory urges. It is commonly associated with a number of co-morbid conditions such as OCD, ADHD as well as disturbances of mood.

GENERAL AND SUPPORTIVE MEASURES

» Psycho-education of patient, parents, teachers and peers: to reduce the stigma and social consequences of tics and behavioural therapy.
» Supportive psychotherapy: to assist the individual to cope with the stigma/teasing, improve self-esteem and improve social skills.
» Family therapy: to assist the family in managing associated symptoms and to reduce stress.

MEDICATION TREATMENT

Medication is used when the tics impair functioning and ideally for short periods only in order to reduce severe symptoms. The natural course of tics is to 'wax and wane'.

- Risperidone, oral.
  - Starting dose: 0.25 mg/day (< 20 kg) and 0.5 mg/day (> 20 kg).
  - Recommended average dosage: 1 mg/day.
  - Dosage range: 0.25–3 mg.

If risperidone cannot be tolerated due to side effects:

- Clonidine, oral, daily.
  - Starting dose at 25 mcg and titrate gradually to 3–5 µg/kg. Divide doses larger than 0.1mg/kg/day into 2 doses (morning and evening)

LoE III[2]

REFERRAL

» Tourette's disorder not responding to therapy.
» Tourette's disorder with comorbid psychiatric or medical conditions.

14.11 PSYCHIATRIC PRESENTATIONS IN HIV-INFECTED CHILDREN AND ADOLESCENTS

F06.0; F06.2; F06.31-34; F06.4; F06.8

DESCRIPTION

» HIV-infected children and adolescents are at increased risk of psychopathology, such as ADHD, depression and anxiety disorders. Psychosis and mania are less common than in the adult population.
» The increased risk of psychopathology is due to the virus itself, side effects of antiretroviral therapy (ART) and psychosocial stressors.
» Symptom presentation of psychiatric disorders in HIV-positive children is the same as in the general paediatric population.
» ADHD often co-occurs with significant learning difficulties, despite treatment with antiretroviral therapy.
» Psychotic disorders are rare in HIV-infected children. Consider a delirium or partial seizures if an HIV-infected child presents with psychotic symptoms. A full medical workup including CSF and HIV viral load is required before assuming that the symptoms are due to a psychiatric disorder.

GENERAL AND SUPPORTIVE MEASURES

» Psychological interventions are similar to those for HIV-negative children.
» Issues specific to the child's HIV status may need specific intervention, e.g. for problems related to disclosure of HIV status, stigma, grief counselling, adherence issues, orphanhood and living with a chronic illness.
» Refer to the hospital social worker to address social issues.

MEDICATION TREATMENT

» Start all medications at lower doses and then titrate up slowly.
» Initiate treatment according to guidance in this chapter.

Note: Due to drug-drug interactions between fluoxetine and some antiretroviral medication, initiate treatment with citalopram when an SSRI is required.

REFERRAL

» All HIV-infected children on ART who present with severe psychiatric symptoms such as severe depression, psychosis and/or mania for general medical evaluation, and if no general medical cause is found, for psychiatric evaluation and initiation of psychotropic medication.

14.12 AUTISM SPECTRUM DISORDER (ASD)

F84

DESCRIPTION

ASD presents with persistent deficits in social communication and interaction, e.g. deficits in socio-emotional reciprocity and restricted, repetitive patterns of behaviour, interests and activities, e.g. inflexibility when confronted with change.

GENERAL AND SUPPORTIVE MEASURES

» Social skills and family interventions.
» Functional assessments (like OT) and diagnostic screens are essential.
» Education and school placement.
» Behaviour modification, specifically adapted for autism spectrum disorders.
» Early intervention is important for optimal outcome.
» Screen for comorbidities such as ADHD, mood and anxiety disorders, which commonly co-exist.

MEDICATION TREATMENT

Not for core autistic symptoms.

For irritability, severe aggression and self-injurious behaviour:

- Risperidone, oral.
  5–12 years (under 50 kg):
  - Starting dose: 0.01 mg/kg/day.
  - Maintenance dose: 0.02–0.04 mg/kg/day.

REFERRAL

» Refer all patients not responding to risperidone to a psychiatrist, or appropriate sub-specialist.

14.13 SUBSTANCE USE DISORDER

F10–19

DESCRIPTION

The essential feature of a substance use disorder (SUD) is a cluster of cognitive, behavioural and physiological symptoms that indicate that the

individual continues to use the substance despite significant substance-related problems.

Age of onset of substance abuse can be as early as 8 years. Illicit drugs such as cocaine, amphetamines and cannabis, as well as alcohol abuse are associated with a greater risk for psychosis. Behavioural disturbance in the context of a SUD may be due to intoxication, withdrawal, or due to a substance-induced mood or psychotic disorder. Initial treatment of SUDs begins with medical stabilisation of the patient ideally in a medical facility. About one third of youth with SUDs, present with a 'dual diagnosis', i.e. a co-occurring psychiatric disorder. Be aware of the mental state changes associated with illicit drugs.

DIAGNOSTIC CRITERIA (DSM 5)

» The substance is used in larger amounts or for longer period than intended.
» A persistent desire or unsuccessful efforts to cut down or control use.
» A great deal of time is spent in activities to obtain, use or recover from the substance.
» Cravings or strong urges to use the substance.
» Failure to meet obligations at work, home or school.
» Continued use despite social and interpersonal problems caused by effects of the substance.
» Use results in decreased or stopping social or recreational activities.
» Continued use in hazardous situations.
» Ongoing use despite knowing of a physical or psychological problem caused by substance.
» Withdrawal
» Tolerance

14.13.1 SUBSTANCE-INDUCED PSYCHOTIC DISORDER

F10.1, F11.1, F12.1, F13.1, F14.1, F15.1, F15.1, F16.1, F17.1, F 18.1, F18.1, F19.1

DESCRIPTION

» Prominent hallucination or delusions.
» Symptoms occur during or within one month of proven substance abuse or intoxication.
» A psychiatric disorder such as schizophrenia or a general medical condition is not the cause of the psychosis.
» The disturbance does not occur in the course of a delirium, which must be excluded.

14.13.2 SUBSTANCE-INDUCED MOOD DISORDER

F10.8, F11.8, F12.8, F14.8, F16.8, F18.8

DESCRIPTION

» A significant and sustained disturbance in mood, i.e. depressed, irritable, expansive or elevated.
» Symptoms occur during or within one month of proven substance abuse or intoxication.
» A psychiatric disorder such as bipolar or a general medical condition is not the cause of the mood disturbance.

GENERAL AND SUPPORTIVE MEASURES

» Conduct a medical assessment (pulse rate, temperature, blood pressure, ECG) and laboratory investigations (FBC, U&E, LFT, BHCG, urine toxicology), depending on the specific drug of abuse.
» Manage withdrawal states, depending on the substance of abuse.
» Refer to a social worker for an evaluation of the family circumstances and for brief motivational interviewing.

MEDICATION TREATMENT

Several medications have been approved by the FDA for treating addiction to opioids, alcohol or nicotine in adults, but not in adolescents. Only preliminary evidence exists for the effectiveness and safety of these medications in individuals under 18 years and no evidence exists for the neurobiological impact of these medications on the developing brain. There are currently no FDA-approved medications to treat addiction to cannabis, cocaine or methamphetamine in any age group.

14.13.3 SUBSTANCE WITHDRAWAL

F10.3, F11.3, F12.3, F13.3, F14.3, F15.3, F16.3, F17.3,

MEDICATION TREATMENT

Consult with a psychiatrist or specialised referral unit. Mild withdrawal states can be managed as an outpatient whereas more severe cases should be referred to the local casualty for medical stabilisation. Children under 6 years old should be referred immediately to casualty.

Alcohol, Benzodiazepines, Stimulants (Cocaine, Methamphetamine) and less commonly Cannabis/Mandrax withdrawal

Management of mild withdrawal:

- Diazepam, oral.
  - 6–14 years: 2–10 mg daily in 2–3 divided doses.
  - > 14 years: up to 20 mg daily in 2–3 divided doses.
  - Taper dose over 3–5 days.

Hallucinogens/Volatile solvents
No detoxification indicated.

14.13.3.1 ALCOHOL WITHDRAWAL

F10.239

GENERAL AND SUPPORTIVE MEASURES

Refer children under 6 years and patients with:
» convulsions,
» psychiatric illnesses: psychosis, intellectual impairment,
» suicidal ideation,
» significant medical co-morbidity such as heart disease; pregnancy,
» inadequate social support, and
» a history of withdrawal delirium.

Assess for co-morbid infections and other pathology.
Ensure adequate hydration. Over-hydration is a common error made in this setting.

MEDICATION TREATMENT

Alcohol detoxification may be managed on an outpatient basis in cases of mild, uncomplicated alcohol withdrawal.

- Thiamine, oral.
  - Children: 0.5–1 mg/kg daily for 14 days.
  - Adults: 50 mg daily for 14 days.
- Diazepam, oral.
  - 1–6 years: 1–6 mg/day.
  - 6–14 years: 2–10 mg daily in 2–3 divided doses.
  - > 14 years: up to 20 mg daily in 2–3 divided doses.
  - Wean dose from 8 hourly, to 12 hourly, to daily every 3–5 days.

14.13.3.2 ALCOHOL WITHDRAWAL DELIRIUM

F10.232

DESCRIPTION

Although the typical delirium occurs 2–3 days following cessation of prolonged alcohol intake, reaching a peak at around 5 days, some withdrawal symptoms, such as the typical tremor, may start within 12 hours.

Typical clinical features include:
» predominantly visual hallucinations; may have delusions,
» disorientation, fluctuating level of consciousness,
» agitation,

» seizures (tonic-clonic), and
» hypertension, tachycardia.

A low-grade fever may be present. Withdrawal tonic-clonic seizures may occur between 24 and 48 hours following cessation of alcohol intake. General medical conditions, e.g. meningitis and other substance use, e.g. sedative-hypnotics should be excluded.

Mortality 1–5%.

GENERAL AND SUPPORTIVE MEASURES

» Monitor vital signs regularly.
» Cardiac monitoring and oximetry should be used when administering large doses of benzodiazepines.
» Correct dehydration and abnormalities of electrolytes and nutrition.
» Consider parenteral fluids to compensate for severe losses, i.e. in hyperthermia.

MEDICATION TREATMENT

Adult management can be applied to adolescents (for young children, management and dosing to be determined in conjunction with a specialist):

- Thiamine, IV.
  - Thiamine must be given prior to glucose to prevent Wernicke-Korsakoff syndrome.
  - 500 mg 8 hourly, diluted in 100 ml normal saline infused over 30 minutes for 3 days.
  - Followed by 250 mg 8 hourly.

- Thiamine, oral.
  - 100 mg daily once stable.

Benzodiazepines:

- Diazepam, slow IV, 10 mg (not IM due to erratic absorption).
  - Repeat dose after 5–10 minutes if required.
  - If this dose is not sufficient, use 10 mg every 5–10 minutes for another 1–2 doses.
  - If patient is not yet sedated, continue with doses of 20 mg.
  - Usual initial dose is 10–20 mg, but up to 60 mg is occasionally required.

Where intravenous access is not possible:

- Clonazepam, IM, 1–2 mg as a single dose.
  - If no response, repeat dose after 60 minutes.
  - Maximum daily dose: 10 mg.

OR

- Lorazepam, IM, 1–4 mg every 30–60 minutes until the patient is sedated.
  - Repeat doses hourly to maintain mild sedation.
  - Maximum daily dose: 6 mg.

Once patient is sedated, i.e. light somnolence, maintain mild sedation with:

» Diazepam, oral, 5–20 mg 2–6 hourly.

Severe agitation and restlessness:

- Haloperidol, IV/IM, 0.5–5 mg.
  - Repeat after 4–8 hours as required to a maximum of 10 mg daily.
  - Once patient has responded and is able to take oral medication: Haloperidol, oral, 0.75–5 mg 6–8 hourly.

Note: Haloperidol, may reduce the seizure threshold. Consider only for severe agitation and restlessness and give in combination with one of the sedative-hypnotic agents above.

For children with hyperactive delirium:

» Medication may be considered to reduce symptoms such as anxiety, agitation, hallucinations and disturbed sleep. Pharmacokinetics in children is different from adults. Before starting pharmacological treatment, the risk of side effects and interactions with other medications and the route of administration have to be considered and weighed against the potential benefits of treatment.

- Diazepam, IV.
  - 0.2 mg/kg, very slowly over 3 minutes.
  - This may be repeated over 24 hours to a maximum of 5 mg for < 5 years and 10 mg for > 5 years.
  - The IV solution can be given rectally if the IV route is inaccessible. Maximum dose over 24 hours: 5 mg for < 3 years and 10 mg for > 3 years.

Oral therapy

Oral doses of haloperidol and risperidone are the same for hyperactive paediatric delirium.

- Risperidone, oral.

  Weight: < 45 kg
  - Loading dose: 0.02 mg/kg.
  - Maintenance dose: 0.01–0.08 mg/kg/day divided into 2–4 doses.
  - Maximum dose: 4 mg/day divided into 2–4 doses.

  Weight: > 45 kg
  - Loading dose: 0.5–1 mg.
  - Maintenance dose: 0.01–0.08 mg/kg/day divided into 2–4 doses.
  - Maximum dose: 6 mg/day divided into 2–4 doses.
  - Dosages > 6 mg have not been studied.

OR

- Haloperidol, oral.
  Weight: < 45 kg
  - Loading dose: 0.02 mg/kg.
  - Maintenance dose: 0.01–0.08 mg/kg/day divided into 2–4 doses.
  - Maximum dose: 4 mg/day divided into 2–4 doses.

  Weight: > 45 kg
  - Loading dose: 0.75–1 mg.
  - Maintenance dose: 0.01–0.08 mg/kg/day divided into 2–4 doses.
  - Maximum dose: 6 mg/day divided into 2–4 doses.
  - Dosages > 6 mg have not been studied.

» Extrapyramidal symptoms are seen frequently, particularly if antipsychotics are increased rapidly. Start low and go slow is an important principle. It can take 24 to 48 hours before an adequate response is achieved. Recognizing and treating adverse effects is important.
» Treatment consists of reducing the dose of antipsychotic and administration of an anticholinergic medication such as biperiden (50 mcg/kg, IV, over 15 minutes).
» In adult patients, lengthening of the QTc interval has been reported with the possibility of Torsade's de Pointes. This has not been reported in children. An ECG is required before starting treatment with haloperidol.
» Risperidone has fewer adverse effects than haloperidol and is thus the treatment of choice when symptoms are not extreme and oral administration is possible.
» When no benefit is obtained with one medication, a switch to the other should be considered.
» A paediatric delirium rating scale should be used at least three times daily to score delirium when medication is started and for as long as the patient receives medication.
» It is not known for how long treatment should continue. Experts advise to continue treatment at least until symptoms have disappeared and until risk factors that possibly led to the delirium have lessened. Medication should be weaned gradually, over a few days.

REFERRAL

» Refer all children and adolescents with suspected alcohol withdrawal delirium immediately once stabilised.

14.13.3.3 OPIOID WITHDRAWAL

F11.23

DESCRIPTION

The illicit use of prescription medication and opioids in children and adolescents has risen significantly. Behavioural manifestations of withdrawal include anxiety, agitation, insomnia, and tremors. Physiological changes linked to withdrawal include increased muscle tone, nausea, vomiting, diarrhoea, decreased appetite, tachycardia, fever, sweating, and hypertension.

Most patients who take an opioid for less than a week do not experience withdrawal and can have their medication discontinued quickly.

However, a prevention approach is preferred for those exposed for longer than 14 days. These children will usually need to be weaned, by gradually decreasing the opioid dose with time.

The only validated tool to assess withdrawal symptoms in children is the Sophia Observation Withdrawal Symptoms Scale.

MEDICATION TREATMENT

Mild withdrawal may be managed as an outpatient.

Symptomatic treatment:

- Diazepam, oral.
  - 6–14 years: 2–10 mg daily in 2–3 divided doses.
  - > 14 years: up to 20 mg daily in 2–3 divided doses.
  - Wean dose from 8 hourly, to 12 hourly, to daily every 3–5 days.

For stomach cramps:

- Hyoscine butyl bromide, oral.
  - 1–3 years: 5–10 mg 8 hourly.
  - 3–6 years: 10 mg 8 hourly.
  - 6–18 years: 10–20 mg 8 hourly.

For diarrhoea:

- Loperamide, oral.
  - Over 2 years: initially 1 mg/12.5 kg body mass, followed by 0.5 mg/12.5 kg after each loose stool. Alternatively, 0.08–0.24 mg/kg/day in 2–3 divided doses.
  - 12–18 years: initially 4 mg, followed by 2 mg after each loose stool. Maximum dose of 6 mg in 24 hours.

The weaning protocol should take into account the length of opioid exposure and total daily opioid dose. The generally approach is to transition to a longer-acting opioid formulation, such as extended-release morphine. Weaning is usually accomplished by steps of a 10% to 20% decrease in the original dose every 24 to 48 hours.

- Morphine:
  - Oral: 0.05 mg/kg/dose 3 hourly.
  - IV: 0.02 mg/kg/dose 3 hourly.

  Weaning after 48 hours:
  - Oral: 0.01 mg/kg/dose 3 hourly.
  - IV: 0.005 mg/kg/dose 3 hourly.

For CNS disturbances (e.g. seizures):
- Phenobarbitone, oral.
  - 5 mg/kg/dose 12 hourly or daily.

OR
- Phenytoin, oral.
  - 5 mg/kg/day in 2–3 divided doses.
  - Maximum dose: 300 mg daily.
  - Maintenance dose: 5–8 mg/kg/day.

Patients with moderate to severe withdrawal should be admitted.
Substitution treatment is reserved for a specialist rehabilitation centre.

14.13.3.4 STIMULANT/METHAQUALONE (MANDRAX)/ CANNABIS WITHDRAWAL

F14.23; F15.23

GENERAL AND SUPPORTIVE MEASURES

Patients do not usually require admission but assess for depression and suicide risk.

MEDICATION TREATMENT

No substitution medication is available for detoxification.

For symptomatic treatment of anxiety, irritability and insomnia:
- Diazepam, oral.
  - 6–14 years: 2–10 mg daily in 2–3 divided doses.
  - > 14 years: up to 20 mg daily in 2–3 divided doses.
  - Wean dose from 8 hourly, to 12 hourly, to daily every 3–5 days.

14.13.3.5 BENZODIAZEPINE WITHDRAWAL

F13.239; F13.232

GENERAL AND SUPPORTIVE MEASURES

Psycho-education about dependence including withdrawal and tolerance within a close therapeutic relationship will assist with compliance. Encourage the patient and caregivers not to seek medication from other doctors and negotiate each reduction with the patient and caregivers. Withdrawal from

benzodiazepines takes time. The patient will require regular monitoring and motivation.

MEDICATION TREATMENT

Replace short-acting benzodiazepines with an equivalent long-acting benzodiazepine (diazepam) dose. Patients may present with medicines that are unavailable in the public sector.

Approximate equivalent doses to diazepam 5 mg are:

- lorazepam 1 mg
- alprazolam 0.5 mg
- bromazepam 1.5 mg
- flunitrazepam 0.5 mg
- nitrazepam 5 mg
- oxazepam 15 mg
- temazepam 10 mg
- zopiclone 7.5 mg
- zolpidem 10 mg

Decrease the dose of diazepam every 2 weeks by 2.5 mg. If symptoms reappear, increase the dose a little and reduce more slowly.

MEDICATION TREATMENT OF COMORBID PSYCHIATRIC CONDITIONS

» Treat according to the primary psychiatric condition, as per treatment guidelines. Refer to section 14.1: Sedation of acutely disturbed child or adolescent; section 14.4: Mood disorders; and section 14.9: Childhood psychosis.

» Beware of adverse interactions between illicit drugs and psychotropic medication, i.e. drug levels of both illicit drugs and psychotropic medications are altered.

REFERRAL

» All for psychotherapeutic interventions or drug rehabilitation.

» Outpatient treatment: refer to SANCA (South African National Council on Alcoholism and Drug Dependence).

Tel: 011 8923829 or toll free: 0861472622.

» In-patient treatment: refer for in-patient drug rehabilitation.

» Patients with severe and persistent behavioural disturbance, psychotic or manic symptoms to an in-patient child and adolescent psychiatric facility, for ongoing containment and management of psychiatric symptoms.

14.14 BEHAVIOURAL PROBLEMS ASSOCIATED WITH INTELLECTUAL DISABILITY

F81.9

DESCRIPTION

Co-occurring psychiatric, neurodevelopmental, medical and physical conditions are frequent, some with rates 3–4 times higher than the general population. The most common co-occurring psychiatric and neurodevelopmental disorders are ADHD, bipolar and depressive disorders, anxiety disorders, ASD, stereotypic movement disorder with/without self-injurious behaviour and impulse-control disorders. Severe intellectual disability may present with aggression including harm to others and property destruction. Inappropriate sexual behaviour may also occur. Epilepsy is associated with increased rates of ADHD, behavioural dysregulation and psychosis.

DIAGNOSTIC CRITERIA

Diagnostic criteria for psychiatric disorders in children with intellectual disability are the same as those for the general paediatric population. However, symptom expression may vary with developmental stage or level of intellectual functioning.

GENERAL AND SUPPORTIVE MEASURES

» Exclude medical conditions in children presenting with behavioural disturbances, particularly in children who are not able to communicate symptoms verbally (e.g. seizures, dental caries, covert infections, poisoning, foreign bodies, space occupying brain lesions and drug side effects).
» Exclude emotional, physical or sexual abuse in a child presenting with persistent adverse behaviour and emotional distress (especially in non-verbal children).
» Parental guidance is an important part of the management of children presenting with behavioural problems (psycho-education, behaviour management).
» Behaviour modification principles form the basis of psychosocial intervention.

MEDICATION TREATMENT

» Psychotropic medication treatment should only occur as part of a multidisciplinary diagnostic and therapeutic intervention.
» Treat according to the primary psychiatric condition, as per treatment guidelines.

For disruptive behaviour disorders in intellectual disability:

- Risperidone is registered for children with developmental disorders > 5 years old:

- Dose 5–12 years: 0.01 mg/kg/day.
- Maintenance dose: 0.02–0.04 mg/kg/day.

- Do baseline blood tests and ECGs, particularly in children with underlying medical conditions.
- Start with the lowest doses possible.
- Increase dosages cautiously as children with intellectual disability may be more susceptible to adverse effects such as extrapyramidal side effects (EPSEs), neuroleptic malignant syndrome (NMS) or the disinhibiting effects of benzodiazepines.

REFERRAL

» Children who fail to respond to initial treatments should be referred to a paediatrician for further assessment and management.
» Children presenting with severe aggression, inappropriate sexual behaviour or significant self-injurious behaviour should be referred for a diagnostic assessment or admission to an intellectual disability service (if such a service exists in the region) or to a tertiary level child psychiatry service.
» Children presenting with psychosis or a manic episode should undergo medical work-up and be referred to a paediatrician or child psychiatrist as appropriate.
» Refer to a social worker or child protection services if abuse is suspected.

References

[1] Division of Pharmacology, Faculty of Health Sciences, University of Cape Town and Health and Medical Publishing Group. South African Medicines Formulary, 12th Edition. 2016.
[2] Taylor D, Barnes TRE, Young AH. The Maudsley Prescribing Guidelines in Psychiatry, 13th Edition. Wiley Blackwell. 2018.