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PSYCHIATRIC MEDICATION COUNSELLING

Guide for Pharmacists

First Edition
2021

Pharmaceutical Services Division
Perak State Health Department

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First Edition, December 2021
Pharmaceutical Services Division
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e ISBN 978-629-97335-0-8

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PREFACE

Pharmacy practice which was traditionally product-centered has now shifted towards patient care. A comprehensive and patient-focused pharmaceutical care plays an impeccable role in ensuring quality, safe and effective treatment is provided to the patients.

Psychiatric Pharmacy service is one of the specialized fields of clinical pharmacy services provided in Malaysia. The evolution of pharmacotherapy in psychiatry began many years ago and is expanding continuously as new therapeutic targets, novel technologies, and not forgetting advanced pharmacological approaches are identified and are becoming widely available. To match up, the roles of pharmacists have also expanded to include playing a vital role in promoting health, preventing disease complications as well as assessing and monitoring medication use in order to ensure safe and effective drug therapy regimes.

This guide is meant for all pharmacists involved in the management of psychiatric patients, whether in the outpatient or inpatient setting. The contents are mainly on the types of medication available for the treatment of Psychiatric Disorders, outlining the drug classes, special precautions and counselling points to be highlighted to the patients during a counselling session. The availability of this guide will serve as a reference and guidance to pharmacists involved in the management of psychiatric patients directly or indirectly.

Lastly, I would like to commend the Pharmacy Department of Hospital Bahagia Ulu Kinta, Pharmaceutical Services Division of Perak State Health Department and also the external reviewers upon their contribution and commitment towards the publication of this guide.

Thank you.

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CONTENTS

Introduction

Patients with psychiatric disorders commonly have poor adherence to medication, with the estimated rate of 20% to 80%. Non- adherence among this group of patients can bring about exacerbation of their illness and complications, leading to rehospitalisation, poor psychosocial outcomes, relapse of symptoms, reduced effectiveness of subsequent treatment, wasted health care resources, increased substance abuse, poor quality of life and increased suicide. Factors contributing to poor medication adherence are myriad and include those that are related to patients, clinicians and health care systems. Complex drug regimens, communication barriers and inadequate and misleading information about adverse effects are among factors causing poor adherence to treatment. Therefore, it is the pharmacist's responsibility to educate and counsel patients regarding their medication and also to encourage them in adhering to their pharmacotherapy treatment as well as correct medication administration.

Patient counselling can be defined as providing information orally or in written form to the patient or his/her caregivers on direction of use, advice on adverse effects, precaution, storage, diet and life style modification. Thus, it is essential for pharmacists to equip themselves with knowledge on pharmacotherapy as well as good communication skills to ensure patient counselling activities can be carried out effectively for the benefit of the patients.

This Psychiatric Medication Counselling Guide is intended to provide general guidance and as a quick reference for pharmacists under Ministry of Health Malaysia to ensure adequate and correct information is relayed to the patients and their caregivers during the counselling session. However, this guide is not meant as a complete drug information resource.

Disclaimer: This guide is NOT intended to replicate of replace knowledge, skills and experience of psychiatrist / health professionals, nor is it a substitute for clinical judgement an advice. The nature of healthcare / drug information is that it is constantly evolving with ongoing research and clinical experience and is often subject to interpretation. While the best effort has been made to ensure the accuracy of the information and recommendation presented, readers are advised that the contributors, editors, reviewers, and publisher cannot be held responsible for the continuous updates of the information, of any errors and / or of any consequences arising from its application.

1. Anti-Dementia Medications

Anti-Dementia Medications	Mode of Action
Acetylcholinesterase Inhibitors: Donepezil Rivastigmine	A deficiency of cortical acetylcholine is thought to account for some of the symptoms of Alzheimer's disease and dementia. Inhibition of acetylcholinesterase can increase the concentration of acetylcholine available for synaptic transmission in the CNS.
N-Methyl-D-Aspartate (NMDA) Receptor Antagonist: Memantine	Uncompetitive antagonist of the NMDA type of glutamate receptors. Glutamate, the primary excitatory amino acid in the CNS, may contribute to the pathogenesis of dementia by over stimulating various glutamate receptors leading to excitotoxicity and neuronal cell death.

It is important to inform patients and their caretakers that while medications can slow down the progression of the disease, they CANNOT cure or reverse the degenerative process.

A. Donepezil Hydrochloride 5 mg, 10 mg Tablet **Donepezil Hydrochloride 5 mg, 10 mg Orodispersible Tablet**	
Class	• Acetylcholinesterase Inhibitor
Significant side effects	• Nausea, diarrhoea, vomiting, dyspepsia, weight loss • Insomnia, headache, dizziness, fatigue, abnormal dreams • Muscle cramps
Counselling Points	• Administer at bedtime without regard to food. Take with food if have GI upset or weight loss. • Caution in concomitant use with Gingko biloba as it may increase adverse effects of acetylcholinesterase inhibitors. **<u>Orodispersible Tablet</u>** • Tablet should be used immediately after removal. • Place the tablet on the tongue. • Allow tablet to disintegrate before swallowing with or without water, according to patient preference.

	• Tablet may change colour with light; must be kept in aluminium pouch until taken.
Pregnancy	• Controlled studies have not been conducted in pregnant women. Not recommended for use in pregnant women or women of childbearing potential.
Breast Feeding	• Excretion in breast milk unknown/ not recommended.

B. Memantine 10 mg, 20 mg Tablet	
Class	• N-Methyl-D-Aspartate (NMDA) Receptor Antagonist
Significant side effects	• Dizziness, headache. • Constipation.
Counselling Points	• Administer without regard to food, at the same time every day. • Try to eat a well-balanced diet and drink several glasses of water each day if experience constipation.
Pregnancy	• Controlled studies have not been conducted in pregnant women. Not recommended for use in pregnant women or women of childbearing potential.
Breast Feeding	• Excretion in breast milk unknown/ not recommended.

C. Rivastigmine 1.5mg, 3mg 4.5mg, 6mg Capsule **Rivastigmine 2mg/ml Oral Solution** **Rivastigmine 4.6mg/24hr, 9.5mg/24hr, 13.3mg/24hr Transdermal**	
Class	• Acetylcholinesterase Inhibitor
Significant side effects	• Nausea, vomiting, diarrhoea, dizziness, decreased appetite, headache, abdominal pain, dyspepsia (the frequency of side effects with the patch may differ from capsules) • Gastrointestinal effects appeared to be more common with oral rivastigmine. • Application site erythema for transdermal patches.
Counselling Points	**<u>Oral Solution/ Capsule</u>** Oral rivastigmine should be taken with food to reduce GI effects.

Rivastigmine Transdermal:

- Only one (1) patch should be worn at a time. Do not open the pouch or remove the patch until you are ready to apply it.
- Before applying the patch, ensure patient's skin is;
    1. Clean and hairless
    2. Free of any powder, oil, moisturizer, or lotion (any one of these can keep the patch from properly sticking to the skin)
    3. Free of cuts, rashes, and irritations
- Steps to apply patch:
    1. Apply patch to upper or lower back or upper arm or chest. Patch should not be applied to areas where it can be rubbed off by tight clothing or belts.
    2. Carefully cut the pouch along the dotted line to open and remove the patch. Save the pouch for later use. Do not cut or fold the patch itself.
    3. Peel off one side of the protective (adhesive) cover. Do not touch the sticky part of the patch with your fingers.
    4. Apply the sticky side of the patch to the chosen area of skin and then peel off the other side of the protective cover.
    5. Wash hands with soap and water if you have touched the sticky part of the patch.
- Steps to remove patch:
    1. Gently pull on one edge of the Exelon Patch to remove it from your skin.
    2. Fold the used patch in half (with the sticky sides together) and put it back into the previously saved pouch. Throw away the used patch safely and out of the reach of children and pets (some medicine stays in the patch for 24 hours after you use it). Do not try to re-use Exelon Patches.
    3. Wash your hands with soap and water right away after you remove the patch. Alcohol or other dissolving liquids (such as nail polish remover) should not be used.

	• DO'S and DON'TS DO'S 1. Old patch must be removed each day before applying a new one 2. Patch need to be changed every 24 hours at the same time of the day. You may write the date and time on the patch with a pen before applying it to remember when to remove it 3. Always check if patch has become loose after bathing, swimming or showering. 4. The application site of the patch should be changed every day, not using the same spot for at least 14 days to minimise potential irritation. DON'TS 1. Do not apply more than one patch. 2. Do not apply patch on skin that has cream, lotion or powder on it. 3. Do not to use overlays, bandages, or tape to secure a patch that has become loose or try to reapply a patch that has fallen off. (Use a new patch if it has fallen off). 4. Do not cut or fold the patch. 5. It is not recommended to apply the patch on tattoo. • Missed dose: 1. Apply next patch as soon as you remember. 2. Do not apply two (2) patches to make up for the missed dose. Suggest calling a health care provider if missed more than three (3) doses before applying a new one, as it may be necessary to restart on lower dosage strength. • Patch should be stored in its unopened, protective pouch at room temperature and out of sunlight in a secure place out of reach of children. • Benign skin reactions can be managed by cold compresses, moisturizing cream and/or topical corticosteroids. Usually preventable by avoiding alcohol or soap use on the skin immediately before patch application, changing the application site every day and moisturizing the skin after removing the patch. • Stop using Exelon Patch and call your health care provider right away if you experience skin reactions that spread beyond the patch size, are intense in nature and do not improve within 48 hours after the patch is removed (allergic contact dermatitis).

Pregnancy	• Controlled studies have not been conducted in pregnant women. Not recommended for use in pregnant women or women of childbearing potential.
Breast Feeding	• Excretion in breast milk unknown / not recommended.

Reference

1. Drug information handbook. 24th edition. Lexicomp.
2. CPG Malaysia: Management of dementia 2nd Edition.
3. The Maudsley: Prescribing Guidelines in Psychiatry 13th Edition.
4. Stahl's Essential Psychopharmacology: Prescribing Guide 6th Edition.
5. Exelon® Patch (rivastigmine transdermal system) online leaflet: http://www.exelonpatch.com/info/alzheimers-treatment/treat-alzheimers.jsp
6. Product information Mementor® Tablet.
7. Product information Aricept® Evess Orodispersible Tablet.
8. Product information Torpezil® Tablet.

2. Antidepressants

Classes	Drugs
Selective serotonin reuptake inhibitors (SSRI)	Escitalopram Fluoxetine Fluvoxamine Sertraline
Tricyclic (TCA)	Amitriptyline Clomipramine Dothiepine
Monoamine oxidase inhibitors (MAOI)	Moclobemide
Serotonin Norepinephrine reuptake inhibitors	Duloxetine Venlafaxine Desvenlafaxine
Noradrenergic and specific serotonergic antidepressant (NaSSA)	Mirtazapine
Melatonin agonist (MT1 & MT2)	Agomelatin
Multimodal serotonin modulator (MSM)	Vortioxetine

There are few classes of antidepressants available. The choice of antidepressant medication depends on various factors including efficacy and tolerability, patient profile, comorbidities and concomitant medications.

Black Box Warning:
All antidepressants carry a black box warning of increased suicidality in children, adolescents, and young adults age 24 and younger. Patient, family and friends should watch for and report if any worsening depression, suicidal ideation, or other unusual changes in behaviour to the doctor.

Onset of Action:
An antidepressant effect is usually seen by 2 weeks. In some cases, improvement of depression symptoms may not occur for a few weeks, it is important to educate patients to continue to take the medication as prescribed.

Interactions:

A. Cytochrome P450 Inhibitors

Most of the SSRIs and SNRIs are the Cytochrome P450 inhibitors, and some SSRIs are potent inhibitors. Fluvoxamine is a potent inhibitor of CYP 1A2, fluoxetine and paroxetine are potent inhibitors of CYP 2D6. Duloxetine & venlafaxine (SNRIs) are weak to moderate inhibitor of CYP 2D6.
SSRIs, SNRIs and vortioxetine can reduce platelets aggregation, and increase risk of gastrointestinal bleeding. This effect can be enhanced when taken with NSAIDs, antiplatelets and anticoagulants. Any signs and symptoms of abnormal bleeding should be reported to the doctor.

B. Serotonin Syndrome

Serotonergic agents like serotonergic antidepressants, MAOIs, tramadol (opioid and related medications), methylphenidate, antimigraine, linezolid, dextromethorphan, St. John's wort, ginseng and certain medications for nausea can increase risk of serotonin syndrome when taken with antidepressants (SSRIs, SNRIs, TCA, MAOIs, vortioxetine). Patient should be educated to look for signs and symptoms, to alert providers and seek medical attention should symptoms of serotonin syndrome develop. Serotonin syndrome symptoms usually occur within 24 hours after taking a new drug/ changes of dose.
Signs and symptoms include:

- Agitation or restlessness
- Confusion
- Rapid heart rate
- Changes in blood pressure/ temperature
- Dilated pupils
- Loss of muscle coordination or twitching muscles
- Muscle rigidity
- Heavy sweating
- Diarrhoea
- Headache
- Shivering
- Goose bumps

Severe serotonin syndrome can be life-threatening. Signs include:

- High fever
- Seizures
- Irregular heartbeat
- Unconsciousness

C. Food Drug Interaction with MAOIs

Sympathomimetic agents and tyramine containing foods are contraindicated in patients on MAOIs treatment, as it can cause high blood pressure and hypertensive crisis. Thus, patient education must include necessity of adhering to dietary and

medications restrictions. Patient should inform his health care providers and pharmacists the MAOIs use.

Tyramine-rich foods

- Aged chicken liver
- Aged cheese
- Beer on tap
- Meats that have been fermented or air-dried, such as summer sausage
- Red wine
- Sauerkraut
- Soy sauce

Other foods that may contain tyramine include:

- Sauces containing fish or shrimp
- Miso soup
- Yeast extract

Antidepressants discontinuation Symptoms/ Withdrawal Symptoms:

SSRIs, SNRIs, TCA and mirtazapine should not be stopped abruptly as this may cause discontinuation/ withdrawal symptoms. The symptoms are usually mild and self-limiting, but can occasionally be severe and prolonged. Agomelatine has a very low, if any, risk of discontinuation symptoms. Mirtazapine withdrawal usually presented with anxiety, insomnia and nausea. SSRIs withdrawal symptoms is similar to that seen in bupropion. Limited data suggest vortioxetine has a low potential for withdrawal symptoms and its Summary of Product Characteristics (SPC) suggests abrupt withdrawal is possible. The patients should work with the doctors if they would like to change medications or stop taking the antidepressants.

A. Agomelatine	
Class	Melatonergic agonist and serotonergic antagonist (melatonergic MT1 and MT_2 receptors agonist and 5-HT_{2C} antagonist).
Significant side effects	• Gastrointestinal: nausea, diarrhoea, constipation • Neurologic: headache, insomnia, somnolence • Hepato-billiary disorders: increased of transaminase levels
Counselling Points	• May improve sleep quality by promoting proper maintenance of circadian rhythms underlying a normal sleep-wake cycle. • It should be administered at bedtime. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Liver function tests will be taken before starting treatment,

	at week-3, week-6, week-12 and week-24 due to cases of liver injury reported. • Do not drink alcohol during treatment with this medicine due to risk of liver injury. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy). • Monitor for signs and symptoms of potential liver injury (e.g. dark urine, light coloured stools, yellow skin/eyes, pain in the upper right belly, sustained new-onset and unexplained fatigue).
Pregnancy	• There are no or limited amount of data from the use of agomelatine in pregnant women. Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, embryonal/ foetal development, parturition or postnatal development.
Breast Feeding	• It is not known whether agomelatine/ metabolites are excreted in human milk. Use with caution.

B. Amitriptyline	
Class	Tricyclic Antidepressant (TCA)
Significant side effects	• Anticholinergic properties: dry mouth, constipation, blurred vision, urinary retention, tachycardia • Sedation • Weight gain
Counselling Points	• This medicine may cause drowsiness and dizziness, especially in the beginning of the treatment. Do not drive or work with tools or machinery if affected. Tolerance to sedative effects may develop with long-term use. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends.

	• Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Adverse effects have been reported in infants whose mothers took a TCA (lethargy, withdrawal symptoms, and foetal malformations). Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

C. Clomipramine	
Class	Tricyclic Antidepressant (TCA)
Significant side effects	• Anticholinergic properties: dry mouth, constipation, blurred vision, urinary retention, tachycardia • Sedation • Weight gain
Counselling Points	• This medicine may cause drowsiness and dizziness, especially in the beginning of the treatment. Do not drive or work with tools or machinery if affected. Tolerance to sedative effects may develop with long-term use. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).

Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Adverse effects have been reported in infants whose mothers took a TCA (lethargy, withdrawal symptoms, and foetal malformations). Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

D. Desvenlafaxine Succinate	
Class	Serotonin and Norepinephrine Reuptake Inhibitor (SNRI)
Significant side effects	• Dermatologic: sweating • Gastrointestinal: nausea, vomiting, constipation, dry mouth • Neurologic: headache, insomnia, decreased appetite • Cardiovascular: increased in blood pressure (1-2%)
Counselling Points	• Most side effects are immediate but often go away with time. • Taking medication with some food or may help those experiencing nausea and vomiting. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Check blood pressure before initiating treatment and regularly during treatment due to risk of increased in blood pressure. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.

Breast Feeding	• Some drug is found in mother's breast milk. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

E. Dothiepin	
Class	Tricyclic Antidepressant (TCA)
Significant side effects	• Anticholinergic properties: dry mouth, constipation, blurred vision, urinary retention, tachycardia • Sedation • Weight gain
Counselling Points	• This medicine may cause drowsiness and dizziness, especially in the beginning of the treatment. Do not drive or work with tools or machinery if affected. Tolerance to sedative effects may develop with long-term use. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Adverse effects have been reported in infants whose mothers took a TCA (lethargy, withdrawal symptoms, and foetal malformations). Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

F. Duloxetine	
Class	Serotonin and Norepinephrine Reuptake Inhibitor (SNRI)
Significant side effects	• Dermatologic: sweating • Gastrointestinal: nausea, constipation, dry mouth • Neurologic: headache, insomnia, decreased appetite • Cardiovascular: increased in blood pressure (2%)
Counselling Points	• Most side effects are immediate but often go away with time. • Taking medication with some food or may help those experiencing nausea and vomiting. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Check blood pressure before initiating treatment and regularly during treatment due to risk of increased in blood pressure. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother’s breast milk. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

G. Escitalopram	
Class	Selective Serotonin Reuptake Inhibitor (SSRI)
Significant side effects	• Gastrointestinal: nausea, vomiting, diarrhoea, constipation, dyspepsia • Neurologic: headache, insomnia, somnolence
Counselling Points	• Taking medication with some food or may help those experiencing nausea and dyspepsia. • Administering the dose at night may help those experiencing headache and somnolence. • Antidiarrhoeal agents may be helpful, although in patients in whom diarrhoea persists, a switch to another agent should be considered. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

H. Fluoxetine	
Class	Selective Serotonin Reuptake Inhibitor (SSRI)
Significant side effects	• Gastrointestinal: nausea, vomiting, diarrhoea, constipation, dyspepsia • Neurologic: insomnia (more common), somnolence, dizziness
Counselling Points	• Taking medication with some food or may help those experiencing nausea and dyspepsia. • Administering the dose in the morning may help those experiencing insomnia. However, administer dose at night if experiencing dizziness and somnolence. • Antidiarrhoeal agents may be helpful, although in patients in whom diarrhoea persists, a switch to another agent should be considered. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

I. Fluvoxamine	
Class	Selective Serotonin Reuptake Inhibitor (SSRI)
Significant side effects	• Gastrointestinal: nausea (more common), vomiting, diarrhoea, constipation, dyspepsia • Neurologic: sedation, dizziness
Counselling Points	• Taking medication with some food or may help those experiencing nausea and dyspepsia. • Administering the dose at night may help those experiencing sedation and dizziness. • Antidiarrhoeal agents may be helpful, although in patients in whom diarrhoea persists, a switch to another agent should be considered. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

J. Imipramine	
Class	Tricyclic Antidepressant (TCA)
Significant side effects	• Anticholinergic properties: dry mouth, constipation, blurred vision, urinary retention, tachycardia • Sedation, dizziness • Weight gain
Counselling Points	• This medicine may cause drowsiness and dizziness, especially in the beginning of the treatment. Do not drive or work with tools or machinery if affected. Tolerance to sedative effects may develop with long-term use. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Positive evidence of risk to human foetus. Should be used only if potential benefits outweigh potential risks. Adverse effects have been reported in infants whose mother took a TCA (lethargy, withdrawal symptoms, foetal malformations). Evaluate for treatment with an antidepressant with a better risk/benefit ratio.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother.

K. Mirtazapine	
Class	Noradrenaline and Specific Serotonergic Agent (NaSSA)
Significant side effects	• Endocrine metabolic: weight gain, increased appetite • Gastrointestinal: constipation, dry mouth • Neurologic: somnolence

Counselling Points	• Method of administration:
	  ○ In order to prevent crushing the tablet, do not push against the tablet pocket.
	  ○ Each strip contains six tablet pockets, which are separated by perforations. Tear off one tablet pocket along the dotted lines.
	  ○ Carefully peel off the lidding foil, starting in the corner indicated by the arrow.
	  ○ The tablet should be taken out of the strip with dry hands and should be placed on the tongue. The tablet will rapidly disintegrate and can be swallowed without water.
	• Administering the dose at night may help with somnolence.
	• In order to control weight gain, advise on nutritional counselling (avoid low-volume, high-calorie foods) and physical exercise should be given.
	• Constipation can be managed by physical activity, fluid and fibre intake or laxatives.
	• Do not drink alcohol during treatment with this medicine as it might increase the sedative effect.
	• It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first.
	• Continue to take this medicine for as long as your doctor recommends.
	• Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).

Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Limited data of the use of mirtazapine in pregnant women do not indicate an increased risk of congenital malformations. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.

Breast Feeding	• Some drug is found in mother's breast milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

L. Moclobemide	
Class	Reversible inhibitor of monoamine oxidase A (MAO-A) (RIMA)
Significant side effects	• Gastrointestinal: nausea, vomiting, diarrhoea, constipation, dry mouth • Neurologic: insomnia, dizziness
Counselling Points	• Avoid concomitant use with St John's Wort due to risk of serotonin syndrome. • Taking moclobemide after meals as opposed to before may minimize the chances of interactions with tyramine as well as help with nausea and vomiting. • Do not take large quantities of foods containing tyramine (mature cheese, dried, aged, smoked and fermented meat, poultry and fish, fermented soya bean products). • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Do not drive while taking this medicine if experiencing dizziness. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Not generally recommended for use during pregnancy, especially during first trimester. Should be avoided due to suspected risk of congenital malformation and hypertensive crisis. Should evaluate patient for treatment with an antidepressant with a better risk/benefit ratio.

Breast Feeding	• Some drug is found in mother's breast milk but adverse effects have on exposed infants is unknown. Should evaluate patient for treatment with an antidepressant with a better risk/benefit ratio.

M. Sertraline	
Class	Selective Serotonin Reuptake Inhibitor (SSRI)
Significant side effects	• Gastrointestinal: nausea, vomiting, diarrhoea, constipation, dyspepsia • Neurologic: dizziness, headache, insomnia (more common), sedation
Counselling Points	• Taking medication with some food or may help those experiencing nausea and dyspepsia. • Administering the dose in the morning may help those experiencing insomnia. However, administer dose at bedtime if experiencing dizziness, headache and sedation. • Antidiarrhoeal agents may be helpful, although in patients in whom diarrhoea persists, a switch to another agent should be considered. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Do not drink alcohol during treatment with this medicine as it might increase the sedative effect. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. However, SSRIs appear not to be major teratogens and sertraline appears to result in least placenta exposure. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.

Breast Feeding	• Some drug is found in mother's breast milk. NICE states that breast milk levels of sertraline are relatively lower and so tacitly recommend the use of sertraline.

N. Venlafaxine	
Class	Serotonin and Norepinephrine Reuptake Inhibitor (SNRI)
Significant side effects	• Dermatologic: sweating • Gastrointestinal: nausea, vomiting, constipation, dry mouth • Neurologic: headache, insomnia, decreased appetite • Cardiovascular: increased in blood pressure (3-13%)
Counselling Points	• Most side effects are immediate but often go away with time. • Taking medication with some food or may help those experiencing nausea and vomiting. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • Check blood pressure before initiating treatment and regularly during treatment due to risk of increased in blood pressure. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Some animal studies show adverse effects but there are no controlled studies in humans. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Some drug is found in mother's breast milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother. If child becomes irritable or sedated, breast feeding or drug may need to be discontinued.

O. Vortioxetine	
Class	• Multimodal serotonin modulator (Direct modulation of serotonergic receptor activity and inhibition of the serotonin (5-HT) transporter.
Significant side effects	• Gastrointestinal: nausea (very common), vomiting, constipation • Neurologic: dizziness
Counselling Points	• Side effects are usually mild or moderate and occur within first two weeks or treatment and are usually transient. • Taking medication with some food or may help those experiencing nausea and vomiting. • Constipation can be managed by physical activity, fluid and fibre intake or laxatives. • It may take a few weeks before you feel any improvement. Therefore, do not change the dose of the medicine or stop taking the medicine without consulting your doctor first. • Continue to take this medicine for as long as your doctor recommends. • Instruct patient to report worsening depression, suicidal ideation, especially at initiation of therapy (children and adolescents are at higher risk for these effects during the first few months of therapy).
Pregnancy	• Controlled studies have not been conducted in pregnant women. Not generally recommended for use during pregnancy, especially during first trimester. There are limited data from the use of vortioxetine in pregnant women. Weigh the risk of treatment to the child against the risk of no treatment to the mother and child.
Breast Feeding	• Available data in animals have shown excretion of vortioxetine/ metabolites in milk. It is expected that vortioxetine will be excreted into human milk. Must weigh benefits of breast feeding with risks and benefits of antidepressant treatment to both the infant and the mother.

References:

1. Stahl, S. M. (2014). Essential Psychopharmacology: Prescriber's Guide, the Fifth Edition. Cambridge University Press.
2. Lexicomp (2015). Drug Information Handbook, A Clinical Relevant Resource for All Healthcare Professionals, the 24th Edition. Wolters Kluwer.
3. Micromedex
4. Pascal Sienaert. Managing the adverse effects of antidepressants. Psychiatr Times.2014; 31(7).
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3. Antipsychotics

Classes	Drugs	Adverse Effect Propensity						
		Sedation	Weight Gain	Akathisia	EPS	Anticholinergic	Hypotension	↑Prolactin
1st Gen (Typical)	Chlorpromazine	+++	++	+	++	++	+++	+++
	Fluphenazine	+	+	++	+++	+	+	+++
	Flupenthixol	+	++	++	++	++	+	+++
	Haloperidol	+	+	+++	+++	+	+	++
	Perphenazine	+	+	++	+++	+	+	+++
	Trifluoperazine	+	+	+	+++	+	+	+++
	Sulpiride	-	+	+	+	-	-	+++
2nd Gen (Atypical)	Clozapine	+++	+++	-	-	+++	+++	-
	Risperidone	+	++	+	+	+	++	+++
	Olanzapine	++	+++	-	-	+	+	+
	Quetiapine	++	++	-	-	+	++	-
	Aripiprazole	-	-	+	-	-	-	-
	Paliperidone	+	++	+	+	+	++	+++
	Asenapine	+	+	+	-	-	-	+

+++ high incidence/ severe; ++ moderate; + low; - very low

The Maudsley Prescribing Guidelines in Psychiatry, 13th Edition/ David M. Taylor, Thomas R. E. Barnes, Allan H. Young.

Antipsychotic is used to treat and relieve psychotic symptoms such as hallucination, delusion, thought disorder and prevent relapse in schizophrenia, bipolar mood disorder, toxic delirium and other underlying psychopathology.

Antipsychotics generally can be grouped into first generation antipsychotics and second generation antipsychotics. First generation antipsychotics are also known as typical antipsychotics and generally interfere with the dopaminergic transmission in the brain by blocking the D2 receptors. The blockade of D2 receptor more than the therapeutic threshold will cause hyperprolactinaemia and extrapyramidal side effects such as Parkinsonism, tardive dyskinesia.

Second generation antipsychotics or atypical antipsychotics do not work through D2 blockade alone but also involve other receptors e.g. serotonergic, adrenergic and histaminergic receptors. Thus, atypical antipsychotics are believed to cause less EPS and prolactin elevation. However, atypical antipsychotics have higher risk in metabolic syndrome, e.g. weight gain, glucose intolerance and dyslipidemia.

Black Box Warning:

All antipsychotics:

1. Increased risk of death in elderly patients with dementia-related psychosis.

Clozapine:

1. Agranulocytosis
2. Myocarditis and cardiomyopathy
3. Seizure
4. Orthostatic hypotension
5. Increased risk of death in elderly patients with dementia-related psychosis.

A. Amisulpride	
Class	Atypical antipsychotic (possibly a dopamine stabilizer and dopamine partial agonist)
Significant side effects	• Extrapyramidal symptoms at high dose (tremor, hypertonia, hypersalivation, akathisia, hypokinesia, dyskinesia) • Galactorrhoea, amenorrhoea • Insomnia, sedation, agitation, anxiety • Constipation, weight gain
Counselling points	• Sedation can last for few hours after dose -do not drive or use tools and heavy machinery. • Dizziness may occur start of medicine and wear off in few weeks. Try not to stand too quickly from sitting or lying position to avoid fall and do not drive. • Women - irregular or no menses and galactorrhoea (milky nipple discharge). • Men - chest changes. • Drug interactions: May enhance QTc prolongation of other drugs capable of prolonging QTc interval.
Pregnancy	• Risk of abnormal muscle movements and withdrawal symptoms in newborns whose mothers took during third trimester. Not recommended for use during pregnancy.
Breast feeding	• Unknown if aripiprazole is secreted in human breast milk, but all antipsychotics assumed to be secreted in breast milk, recommended either to discontinue drug or bottle feed.

B. Aripiprazole	
Class	Atypical antipsychotic (dopamine partial agonist)
Significant side effects	• Akathisia, activation • Dizziness, insomnia • Nausea, vomiting • Orthostatic hypotension, occasionally during initial dosing
Counselling Points	• To be taken in the morning as sedation is unusual, and to prevent sleeping difficulty as it can cause akathisia and activation. • Weight gain and metabolic syndrome are unusual • Drug Interactions: o Strong CYP3A4 (e.g. ketoconazole) or CYP2D6 (e.g. fluoxetine) inhibitors will increase aripiprazole level. o CYP3A4 inducers (e.g. carbamazepine) will decrease aripiprazole level.
Pregnancy	• Some animal studies show adverse; no control studies in humans. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in newborns following delivery.
Breast Feeding	• Unknown if aripiprazole is secreted in human breast milk, but all antipsychotics assumed to be secreted in breast milk, recommended either to discontinue drug or bottle feed.

C. Asenapine	
Class	Atypical antipsychotic (serotonin-dopamine antagonist)
Significant side effects	• Sedation, dizziness • Oral hypoesthesia • Extrapyramidal symptoms, akathisia • Application site reactions: oral ulcers, blisters, peeling/ sloughing, inflammation • Orthostatic hypotension
Counselling Points	• Side effects: o Sedation is common o Patients should be informed of the possibility of

	temporary numbing of the tongue and/ or bitter taste that can occur after sublingual administration ○ Weight loss, exercise programs, and medical management for high BMI, diabetes, dyslipidemia • Administration advice: ○ Do not remove the tablet from package until ready to administer. ○ The tablet should not be pushed through the tablet pack ○ Handle the tablet with dry hands. ○ Place the whole tablet under tongue and allow to dissolve completely; do not split, crush, chew, or swallow the tablet. ○ Do not eat or drink for 10 minutes after administration as it can reduce the absorption of asenapine. • Storage requirements: ○ Tablets should be kept in the tablet pack until ready to be used • Drug interactions: ○ Asenapine inhibit CYP2D6 ○ Asenapine is a substrate for CYP1A2 (e.g. Fluvoxamine can raise level of asenapine)
Pregnancy	• Some animal studies show adverse; no control studies in humans. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in newborns following delivery.
Breast Feeding	• Unknown if asenapine is secreted in human breast milk, but all antipsychotics assumed to be secreted in breast milk, recommended either to discontinue drug or bottle feed.

D. Chlorpromazine	
Class	Typical antipsychotic (dopamine 2 antagonist)
Significant side effects	• Extrapyramidal symptoms (akathisia, parkinsonism, muscle stiffness, tardive dyskinesia) • Galactorrhoea, amenorrhoea
Counselling points	• Sedation is common so emphasize on risk of driving, handling hazardous equipment and risk of fall in elderly.

	• Warn of its potential to cause skin photosensitivity. Advise use of sunscreen if necessary. Unusual sensitivity to sun and may turn urine reddish brown to pink. • Risk of myocarditis -extra precaution should be given in any history of cardiac disorder, or family history of cardiac disease. • Drug interactions ○ Chlorpromazine and erythromycin ethyl succinate both increase QTc interval.
Pregnancy	• Should only be used only if clearly needed. Generally should not be used during the first trimester. There is a risk of abnormal muscle movements and withdrawal symptoms in newborns whose mothers took during the third trimester.
Breast feeding	• Recommended either to bottle feed or discontinue drug as some drug found in mother's milk which effect infants (sedation, dystonia).

E. Clozapine	
Class	Atypical antipsychotic (Serotonin-dopamine antagonist)

Significant side effects	• Weight gain
	• Sedation, might wears off by time
	• Tachycardia and orthostatic hypotension
	• Constipation
	• Hypersalivation
	• Nocturnal enuresis- loss of bladder control, especially at night (bed wetting)
	• Life threatening or dangerous side effects
	  ○ Agranulocytosis
	  ○ Myocarditis
	  ○ Paralytic ileus
	  ○ Seizure (risk increases with dose)

Counselling points	• Weight gain: advice about exercise and diet. • Sedation: Take at bedtime to help to reduce daytime sedation. Consider smaller dose if morning dose is required. • Tachycardia: If persist at rest and associated with fever, hypotension or chest pain may indicate myocarditis. • Orthostatic hypotension: Stand up slowly from lying to standing position, especially when getting out of bed. • Constipation: Consume high fibre and adequate fluid.

	• Hypersalivation: Use towel on the pillow while sleeping and make sure bring towel/tissue along. • Neutropenia and agranulocytosis: blood taking and WBC & ANC monitoring compulsory weekly for first 18weeks and monthly as long as patient on clozapine. Flu-like symptoms such as sore throat & fever should be informed to medical officers. The risk of agranulocytosis is highest in the first 18 weeks of initiating treatment. Agranulocytosis is idiosyncratic, not dose dependent and therefore dose changes would not decrease the risk. • If patient have defaulted medication, restarting the regime with initial dose should be done by clinicians, and WBC & ANC monitoring need to be restarted as well. • Interaction: o Cigarette smoking can decrease clozapine levels. Decrease clozapine dose during periods of smoking cessation; o CYP450 1A2 inhibitor (fluvoxamine, ciprofloxacin) may increase clozapine plasma level; o Strong CYP450 2D6 inhibitors (duloxetine, fluoxetine, sertraline) may raise clozapine plasma level; o Strong CYP450 3A4 inhibitors (ketoconazole) may raise clozapine plasma level; o CYP450 3A4 inducer (carbamazepine, phenytoin, rifampicin) may decrease clozapine plasma level.
Pregnancy	• Clozapine should be used only when the potential benefits outweigh potential risks to the foetus. There is a risk of abnormal muscle movements and withdrawal symptoms in newborns whose mothers took during the third trimester.
Breast feeding	• Unknown if clozapine is secreted in human breast milk. Recommended either to discontinue drug or bottle feed.

F. Fluphenazine	
Class	Typical antipsychotic (dopamine 2 antagonist)
Significant side effects	• Extrapyramidal symptoms-akathisia, parkinsonism, muscle stiffness • Galactorrhoea, amenorrhoea • Dizziness, sedation and hypotension
Counselling points	• Local site reactions due to sesame oil as vehicle • Risk of extrapyramidal symptoms in first 48hour
Pregnancy	• Not recommended for use during pregnancy.
Breast feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

G. Flupenthixol Decanoate	
Class	Typical antipsychotic (dopamine 2 antagonist)
Significant side effects	• Extrapyramidal symptoms (more common at start of treatment) • Transient Insomnia especially when patient is switched over from sedative antipsychotics • It's a non-sedating drug, however at high dosage a sedative effect may occur in occasional patient • Agitation, restlessness • Tardive dyskinesia • Galactorrhoea, amenorrhoea • Tachycardia • Weight gain
Counselling Points	• Weight loss, exercise programs, and medical management for high BMI, diabetes, dyslipidemia. • Sedation occurs in significant minority.
Pregnancy	• Not recommended for use during pregnancy.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

H. Haloperidol	
Class	Typical antipsychotic (dopamine 2 antagonist)
Significant side effects	• Extrapyramidal symptoms (EPS), parkinsonism, tardive dyskinesia, tardive dystonia • Akathisia • Galactorrhoea, amenorrhoea • Dizziness, sedation (sedation is usually transient)
Counselling Points	• To watch out for EPS: hands tremor, hand rigidity, reduce arm swing, drooling of saliva, slurred speech, up rolling eye ball (oculogyric crisis) - to inform doctor if has any symptoms above. • Sedation is usually transient.
Pregnancy	• Adverse events were observed in animal reproduction studies. Congenital malformations have not been observed in humans based on limited data. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in newborns following delivery.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

I. Olanzapine & Olanzapine Orodispersible	
Class	Atypical antipsychotic (Multiple Neuronal Receptor Antagonist)

Significant side effects	• Dose dependent EPS such as Tremor, Hypertonia, Hypersalivation, Akathisia, Hypokinesia, Dyskinesia
	• Weight gain, increase appetite
	• Dizziness
	• Sedation
	• Hypotension
	• Cause elevations in prolactin
	  ○ Galactorrhoea
	  ○ Amenorrhoea

Counselling points	• To watch out for EPS (tremor, hypertonia, hypersalivation, akathisia, hypokinesia and dyskinesia) and to inform doctor if has any symptoms as above • Weight gain: advice about exercise and diet • To inform doctor if has smoking habit for dose adjustment appropriately due to competitive inhibition of CYP1A2 by smoking

	Orodispersible tablet (ODT) • The tablet should be placed in the mouth, where it will rapidly disperse in saliva, so it can be easily swallowed with or without liquid. • It should be left in the unopened blister until the time of use. Gently remove the orally disintegrating tablet with the dry hand and immediately place the tablet in the mouth and allow it to disintegrate and then swallow with saliva. • Alternately, it may be dispersed in a full glass of water or other suitable beverage (orange juice, apple juice, milk or coffee) immediately before administration.
Pregnancy	• Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and/or withdrawal symptoms in new-borns following delivery. • An increased risk of weight increase in pregnant women was observed. Glucose intolerance and onset of gestational diabetes have also been reported in the use of olanzapine in pregnancy. Besides that, it has also associated with pre-eclampsia.
Breast feeding	• Breastfeeding infants are not recommended as it excreted into breast milk (1.8% of maternal dose).

J. Paliperidone ER	
Class	Atypical antipsychotic (Serotonin Dopamine Antagonist)
Significant side effects	• Dose dependent EPS such as tremor, hypertonia, hypersalivation, akathisia, hypokinesia, dyskinesia • Galactorrhoea, amenorrhoea • Dizziness, sedation, hypotension
Counselling points	• To watch out for EPS (tremor, hypertonia, hypersalivation, akathisia, hypokinesia and dyskinesia) and to inform doctor if has any symptoms as above. • To be administered with or without food. • Must be swallowed whole with the aid of liquids, and must not be chewed, divided or crushed. • The medication is contained within a nonabsorbable shell designed to release the drug at a controlled rate. The tablet shell, along with insoluble core components, is eliminated from the body; patients should not be concerned if they occasionally notice in their stool something that looks like a tablet.

Pregnancy	• Only used if benefits outweigh the risks. Risk of EPS if exposure at third trimester of pregnancy. Neonate's symptoms include agitation, tremor, respiratory distress or feeding disorder.
Breast feeding	• Breastfeeding infants are not recommended as it excreted into breast milk.

K. Injection Paliperidone Palmitate (Sustenna)	
Class	Atypical antipsychotic (Serotonin Dopamine Antagonist)
Significant side effects	• Dose dependent EPS such as tremor, hypertonia, hypersalivation, akathisia, hypokinesia, dyskinesia • Galactorrhoea, amenorrhoea • Dizziness, sedation, hypotension
Counselling points	**Administration** **Initiation** o Day 1- 150 mg IM at deltoid area only o Day 8 (±4 days) -100 mg IM at deltoid area only **Maintenance** o Every month (±7 days) thereafter 50–150 mg IM at deltoid or gluteal. • To watch out for EPS (tremor, hypertonia, hypersalivation, akathisia, hypokinesia and dyskinesia) and to inform doctor if has any symptoms as above.
Pregnancy	• Not recommended during pregnancy.
Breast feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

L. Perphenazine	
Class	Typical antipsychotic (Dopamine Antagonist)
Significant side effects	• Dizziness, sedation (usually transient) • Dry mouth, constipation, urinary retention, blurred vision • Hypotension, tachycardia, syncope • Extrapyramidal symptoms (EPS), parkinsonism, tardive dyskinesia, tardive dystonia • Weight gain • Galactorrhoea, amenorrhoea
Counselling Points	• Sedation is common but usually is transient. • Weight loss, exercise programs, and medical management for high BMI, diabetes, dyslipidemia.

Pregnancy	• Some animal studies show adverse; no control studies in humans. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in new-borns following delivery.
Breast Feeding	• Unknown if perphenazine is secreted in human breast milk, but all antipsychotics assumed to be secreted in breast milk, recommended either to discontinue drug or bottle feed.

M. Quetiapine IR / XR	
Class	Atypical antipsychotic (Serotonin Dopamine Antagonist)
Significant side effects	• Sedation is frequent and significant in amount, can wear off over time, especially Quetiapine IR • Drowsiness (16%-57%), dizziness (7%-19%) • Orthostatic hypotension, usually during initial dose titration • Weight gain (dose related; 3%-28%), metabolic syndrome • Anticholinergic properties: dry mouth, constipation, blurred vision, urinary retention, tachycardia • Metabolic syndrome may increase risk for diabetes and dyslipidemia.
Counselling Points	**Quetiapine IR** • To be taken with or without food. • Sedation is more significant, advice patient to rest and not to drive or operate machine after taking quetiapine. **Quetiapine XR** • Should be administered without food (at least one hour before meal or 2 hours after meal). • The tablets should be swallowed whole and not split, chewed or crushed.
Pregnancy	• Adverse events were observed in animal reproduction studies. Congenital malformations have not been observed in humans based on limited data. Quetiapine may be preferable to anticonvulsant mood stabilizer if treatment is required during pregnancy. It should only be used during pregnancy if the benefits justify the potential risks. • Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in new-borns following delivery.

Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

N. Risperidone (Tablet & Solution 1mg/ml)	
Class	Atypical antipsychotic (Serotonin Dopamine Antagonist)
Significant side effects	• Dose-dependent extrapyramidal symptoms (EPS) • Dose-related hyperprolactinemia • Dose-dependent sexual dysfunction • Dizziness, sedation, headache, insomnia, anxiety • Nausea, constipation, weight gain • May increase risk for diabetes and dyslipidemia (metabolic syndrome) • Rare orthostatic hypotension, usually during dose titration • Rare tardive dyskinesia
Counselling Points	• To watch out for EPS: hands tremor, hand rigidity, reduce arm swing, drooling of saliva, slurred speech, up-rolling eye ball (oculogyric crisis) - to inform doctor if has any symptoms above. • Sedation is common but usually transient. • Weight loss, exercise programs, and medical management for high BMI, diabetes, dyslipidemia. **Risperidone Solution 1mg/ml:** • The oral solution is clear and colourless. • Incompatible with most type of cola and tea including black tea. • Shelf life after first opening: 3 months. • Do not store above 30 degrees Celsius. Do not refrigerate or freeze.
Pregnancy	• Some animal studies show adverse; no control studies in humans. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in new-borns following delivery.
Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

O. Sulpiride	
Class	Atypical antipsychotic (Dopamine Receptor Antagonist)
Significant side effects	• Extrapyramidal symptoms such as akathisia, parkinsonism, muscle stiffness • Galactorrhoea, amenorrhoea • Nausea, vomiting, anorexia, dry mouth, constipation • Weight gain • Sedation, dizziness, headache and sleep disturbance
Counselling points	• Emphasize on risk of driving, handling hazardous. equipment and risk of fall in elderly since it may cause sedation if higher dose. • Do inform doctor / pharmacist for medication management if any signs irregular or no menses and galactorrhoea (milky nipple discharge) in women. • Weight loss, exercise programs, and medical management for high BMI, diabetes, dyslipidemia.
Pregnancy	• Potential risk should be weighed against the potential benefits, and it should be used if deemed necessary.
Breast feeding	• RID: 2.7 - 20.7% • Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

P. Trifluoperazine	
Class	Typical antipsychotic (Dopamine Receptor Antagonist)
Significant side effects	• Dizziness, sedation (usually transient), hypotension • Dry mouth, constipation, urinary retention, blurred vision • Extrapyramidal symptoms (EPS), parkinsonism, tardive dyskinesia, tardive dystonia • Galactorrhoea, amenorrhoea • Weight gain
Counselling Points	• Sedation is common but usually is transient. • To watch out for EPS: hands tremor, hand rigidity, reduce arm swing, drooling of saliva, slurred speech, up-rolling eyeball (oculogyric crisis) - to inform doctor if has any symptoms above.
Pregnancy	• Some animal studies show adverse; no control studies in humans. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and / or withdrawal symptoms in newborns following delivery.

Breast Feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

Q. Injection Zuclopenthixol Decanoate, Injection Zuclopenthixol Acetate, Zuclopenthixol Drop	
Class	Typical antipsychotic (Dopamine Receptor Antagonist)
Significant side effects	• Dose dependent EPS such as tremor, hypertonia, hypersalivation, akathisia, hypokinesia, dyskinesia • Galactorrhoea, amenorrhoea • Blurred vision, dry mouth, constipation • Weight gain • Sedation, hypotension and dizziness
Counselling points	• Use with caution against performing activities requiring high mental alertness. (driving and operating hazardous equipment).
Pregnancy	• Not recommended during pregnancy. Antipsychotics use during third trimester of pregnancy has a risk for abnormal muscle movement (EPS) and/or withdrawal symptoms in newborns following delivery.
Breast feeding	• Some drug is found in mother's breast milk, recommended either to discontinue drug or bottle feed.

References:

1. Stahl, S. M. (2014). Essential Psychopharmacology: Prescriber's Guide, the Fifth Edition. Cambridge University Press.
2. Lexicomp (2015). Drug Information Handbook, A Clinical Relevant Resource for All Healthcare Prefessionals, the 24th Edition. Wolters Kluwer.
3. Saphris (Asenapine Maleate Sublingual Tablets), Product Monograph (16 March 2018).
4. Tolanz ODT (Olanzapine Orodispersible Tablet), Product Leaflet (9 August 2019).
5. Zyprexa Zydis (Olanzapine Orally Disintegrating tablet), Product Monograph (10 April 2020).
6. Invega ER (Paliperidone Extended-Release Tablet), Product Leaflet (29 April 2019).

4. Benzodiazepine and Hypnotics

Benzodiazepines and hypnotics are usually used as an adjunct therapy in mood disorder (e.g. anxiety disorder & major depressive disorder) and sleep disorder. Benzodiazepine is usually used as short term therapy, most of the benzodiazepines duration is 2 to 4 weeks together with first line medications.

<table>
<tr><th colspan="2">A. Alprazolam, Bromazepam, Clonazepam, Diazepam & Lorazepam</th></tr>
<tr><td>Class</td><td>Benzodiazepine</td></tr>
<tr><td>Significant side effects</td><td>1. Effects on CNS
● Drowsiness, sedation, psychomotor impairment (increases risk of fall)
● Disorientation, depression, confusion, irritability, aggression, paradoxical excitation
● Impairment of memory and recall
● Headache
● Next day ‘hangover’ or ‘residual’ effects is more common in benzodiazepines with long half lives

2. Discontinuation/ withdrawal symptoms
● Common symptoms: anxiety, insomnia, restlessness, muscle tension, irritability.</td></tr>
<tr><td>Counselling Points</td><td>
<table>
<tr><th>Side effect</th><th>What is it?</th><th>What should I do if this happens to me?</th></tr>
<tr><td colspan="3">Common</td></tr>
<tr><td>Ataxia</td><td>Being very unsteady on your feet</td><td>Discuss with your doctor at your next visit.</td></tr>
<tr><td>Dizziness</td><td>Feeling light-headed and faint</td><td>Don’t stand up too quickly. Try and sit or lie down when you feel it coming on. Don’t drive.</td></tr>
<tr><td>Drowsiness</td><td>Feeling sleepy or sluggish. It can last for a few hours after taking your dose.</td><td>Don’t drive or use machinery. Ask your doctor if you can take your benzodiazepine at a different time.</td></tr>
<tr><td>Rare</td><td></td><td></td></tr>
<tr><td>Aggression</td><td>Feeling excitable. You may be talkative or unfriendly</td><td>Discuss with your doctor. He or she may want to change your dose.</td></tr>
<tr><td>Amnesia</td><td>Amnesia Loss of memory or</td><td>Discuss with your doctor if you are worried.</td></tr>
</table>
</td></tr>
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<table>
<tr><td></td><td>
<table>
<tr><td></td><td>difficulty in remembering. It is not dangerous.</td><td></td></tr>
<tr><td>Confusion</td><td>Your mind is all mixed up.</td><td>Discuss with your doctor at your next visit.</td></tr>
<tr><td>Headache</td><td>When your head is pounding and painful.</td><td>It should be safe to take aspirin or paracetamol.</td></tr>
<tr><td>Hypotension</td><td>A low blood pressure. You may feel faint when you stand up.</td><td>Try not to stand up too quickly. If you feel dizzy, don’t drive. This dizziness is not dangerous</td></tr>
<tr><td>Rashes</td><td>Blotches seen anywhere.</td><td>Stop taking it and see your doctor now.</td></tr>
</table>

Do not combine with alcohol or other CNS depressants because it can intensify side effects.
May cause drowsiness, do not drive or operate machinery until you feel fully awake.
Benzodiazepines provide symptomatic relief but do not treat the underlying psychological problem, duration of the therapy is usually short term or take it only when necessary.
Tolerance and dependence may occur after prolonged use, educate patient to use it as instructed and to discuss with doctor if the usage increases.
Educate patient with sleep problem on sleep hygiene (refer to appendix Sleep Hygiene).

</td></tr>
<tr><td>Pregnancy</td><td>

Pregnancy Risk Factor D: Benzodiazepines cross placenta.
Possible increased risk of birth defects with benzodiazepines taken during pregnancy. Not recommended during pregnancy especially during the 1st trimester. Drug should be tapered if discontinued. Infants whose mothers received a benzodiazepine late in pregnancy may experience withdrawal symptoms. Neonatal flaccidity has been reported in infants whose mothers took a benzodiazepine during pregnancy. Seizures, even mild may cause harm to the embryo/foetus.

</td></tr>
<tr><td>Breast Feeding</td><td>

Not recommended

</td></tr>
</table>

B. Zolpidem	
Class	Non-benzodiazepine Hypnotic
Significant side effects	1. Effects on CNS ● Drowsiness, sedation, psychomotor impairment (increased risk of fall) ● Disorientation, depression, confusion, irritability, aggression, paradoxical excitation ● Impairment of memory and recall ● Headache 2. Discontinuation/ withdrawal symptoms. 3. Hypnotic use has been associated with bizarre behaviour, hallucinations, agitation and complex sleep behaviours (sleep driving, making/eating food during sleep, sleep walking).
Counselling Points	● Take immediately before bed time. ● Take on empty stomach to improve effectiveness as food can delay the absorption. ● Do not combine with alcohol or other CNS depressants because it can intensify side effects. ● May cause drowsiness, do not drive or operate machinery until you feel fully awake. ● Hypnotic use has been associated with bizarre behaviour, hallucinations, agitation and complex sleep behaviours (sleep driving, making/eating food during sleep, sleep walking). ● Tolerance and dependence may occur after prolonged use, educate patient to use it as instructed and to discuss with doctor if the usage increases (less tolerance and dependence than benzodiazepines). ● Educate patient with sleep problem on sleep hygiene (refer to appendix Sleep Hygiene).
Pregnancy	• Pregnancy Risk Factor C • Controlled studies have not been conducted in pregnant women. Infants whose mothers took hypnotics during pregnancy may experience withdrawal symptoms. Neonatal flaccidity has been reported in infants whose mothers took sedative hypnotics during pregnancy.
Breast Feeding	• Some drugs are found in mother's breast milk. Recommended either to discontinue drug or bottle feed.

5. Mood Stabilizers

Mood Stabilizer	Significant Drug Interactions	FDA Use-in-pregnancy Risk Category	Teratogenic Risk	Lactation information
Carbamazepine	Potent CYP3A4 inducer, and substrate of CYP3A4	**D**	Less frequent and severe compared to VPA: Neural tube defects, cleft palate, cardiovascular & urinary tract abnormalities.	Drug present in human milk
Lamotrigine	Negligible 1st pass effect, metabolised by UGT	**C**	Increase risk of isolated cleft palate or cleft lip deformity with first trimester exposure.	Drug present in human milk
Lithium	Not metabolised. Increases lithium level: ACE inhibitors, ARBs, NSAID, Thiazide diuretics. Decreases Lithium level: Caffeine, High sodium intake, Osmotic diuretics.	**D**	Teratogenic effects in first trimester: risk of Ebstein's anomaly 20-40 times higher than in general population, which is 1/20,000, umbilical cord levels equal to maternal blood levels.	Discourage during lactation
Valproate Acid	Metabolised by CYP2C19, CYP2C9 & UGT; inhibits CYP2C9 & UGT; medication which highly protein bound.	**D**	Neural tube defect 1-2% (10-20 times higher in general population), craniofacial, limb, cardiovascular, genitourinary malformations. Teratogenic effect increases with anticonvulsant polypharmacy and in VPA doses > 1000mg/ day.	Drug present in human milk.

Mood stabilizer is used in both acute and maintenance therapy for bipolar mood disorder, either as monotherapy or combination therapy with antipsychotics or antidepressants.

Most of the mood stabilizers except lithium are potent cytochrome P450 inhibitor or inducer, and these mood stabilizers also a substrate of the cytochrome P450 enzyme, it is important to educate patient to discuss the use of other medications with the health care provider, including OTC medications. Lithium is not metabolized via the cytochrome P450, lithium elimination is via renal with approximately 95% excreted. Medications which can affect the glomerular filtration rate will have some impact on the elimination of lithium from the body, which can lead to lithium toxicity or sub-therapy.

Besides drug interactions, safety of the mood stabilizers use in pregnancy is another aspect which need attention during the counselling session, as most of the mood stabilizers are teratogenic. Counselling on family planning might be necessary for patients of childbearing age.

A. Carbamazepine 200mg Tablet / Carbamazepine CR 400mg Tablet / Carbamazepine 100mg/5mL Suspension	
Class	Mood stabilizer
Significant side effects	• Sedation, dizziness, confusion, unsteadiness, headache • Nausea, vomiting, diarrhoea • Blurred vision • Benign leukopenia (transient; in up to 10%) • Thrombocytopenia • Aplastic anaemia, Agranulocytosis (rare) • Rashes; Rare severe dermatologic reactions (purpura, SJS/TEN) • Atrioventricular block, Cardiac dysrhythmia
Counselling Points	• Avoid grapefruit or grapefruit juice as both can increase CBZ level. • Check with your healthcare provider before taking any other medications in combination with CBZ, including OTC. • CBZ can decrease plasma levels of oral contraceptives drugs (oestrogen and/or progesterone) due to its enzyme induction and adversely affect their efficacy. Women of child bearing potential should be advised to use alternative non hormonal contraceptive methods while on CBZ treatment. • To explain the indication of therapeutic drug monitoring (TDM) of serum carbamazepine during treatment. • Patient should report to physician immediately if develops any sign and symptoms of carbamazepine toxicity such as nausea and vomiting, drowsiness, ataxia, hallucination,

	tremor and blurred vision. • Ryle tube should be flushed with each 30mL of sterile water for both before and after carbamazepine administration. Hold also for enteral nutrition 2 hours before and 2 hours after dose administration.
Pregnancy	• Pregnancy category: D • May cause foetal harm. Epidemiological data have been suggested that an association between the use of carbamazepine during pregnancy and congenital malformations, including spina bifida. Developmental disorders, developmental delays based on neurobehavioural assessments and congenital anomalies such as craniofacial defects and cardiovascular malformations have been reported in humans. • Use a reliable form of birth control. If pregnancy occurs contact a healthcare provider immediately.
Breast Feeding	• Some drug is found in mother's breast milk. If drug is continued while breast feeding, infant should be monitored for possible adverse effects, including haematological effects. The potential benefits of breastfeeding should be weighed against the potential risk of adverse effects occurring in the infant.

B. Lamotrigine 50mg/100mg	
Class	Mood stabilizer
Significant side effects	• Benign rash (approximately 10%); Stevens-Johnson Syndrome (Rare) • Dose dependent: blurred or double vision, dizziness, nausea • Sedation, headache, insomnia, fatigue • Nausea, vomit, dyspepsia
Counselling Points	• Take with or without food. Take with food if patient has gastrointestinal upset. • Takes time to begin working because of the need of slow titration. • Patient should report to physician immediately if develops signs of a skin rash, or hypersensitivity symptoms such as fever, flu-like symptoms, blisters on skin and swelling of eyelids. • The use oral contraceptives or estrogen may decrease lamotrigine level, report the use of oral contraceptives or

	estrogen to healthcare provider, especially if starting or stopping oral contraceptives or estrogen, since the dosage of lamotrigine may need to be adjusted.
Pregnancy	• Pregnancy registry data show increased risk of isolated cleft palate or cleft lip deformity with first trimester exposure.
Breast Feeding	• Data indicate that lamotrigine passes into breast milk. The infant should be monitored for adverse effects if drug is continued while breast feeding. The potential benefits of breastfeeding should be weighed against the potential risk of adverse effects occurring in the infant.

C. Lithium Carbonate 300mg Tablet	
Class	Mood stabilizer
Significant side effects	• Ataxia, dysarthria, delirium, tremor • Polyuria, Polydipsia • Fatigue, Dizziness • Blurred vision • Nausea, vomiting, diarrhoea • Gastritis • Increased weight • Bradyarrhythmia
Counselling Points	• To be taken with or immediately after meals to lessen gastrointestinal upset. • Keep the salt intake in your daily diet the same. Changes in salt intake can change the lithium level in the body. • Avoid excessive amounts of caffeine: coffee, tea, soda or chocolate. Caffeine can increase elimination of lithium from the body. • Avoid becoming dehydrated by drinking plenty of fluids especially in hot weather or if you are exercising extensively. • Inform your health care provider if you are taking other medications, including OTC. NSAIDs, ACE inhibitors and thiazide diuretics can increase lithium level in the body. • Regular lithium plasma level monitoring is needed to ensure the right therapeutic dose with least side effects. • Patient should report to physician immediately if develops any sign and symptoms of lithium toxicity such as diarrhoea, vomiting, tremor, and mild ataxia, lack of coordination, muscle weakness and drowsiness.

Pregnancy	• Pregnancy category: D • Evidence of increased risk of major birth defects and cardiac anomalies (especially Ebstein's anomaly) in infants whose mothers took lithium during pregnancy. • Only recommended for use during pregnancy when there are no any alternatives and the benefit outweighs the risk.
Breast Feeding	• Lithium is soluble and readily transferred into breast milk. Breast feeding should be avoided. • Consult doctor if any plan on breast feeding.

D. Sodium Valproate Enteric Coated 200mg / Epilim Chrono Controlled Release 500mg	
Class	Mood stabilizer
Significant side effects	• Sedation • Dizziness • Headache • Abdominal pain • Weight gain • Nausea • Thrombocytopenia / Anemia
Counselling Points	• All valproate tablets should be swallowed whole and not crushed or chewed. • All valproate tablets are hygroscopic. The tablets should not be removed from the foil or container until immediately before they are taken. • Sedation can wear off over time. • If experience gastrointestinal upset, take with or after food. • Discuss the use of all other medications with your healthcare provider, including OTC products. • Blood levels can be drawn to make sure you are in the right range to get most benefit with the least side effects. Encourage patients to learn their own blood levels. • This medication can cause pancreatitis. Sign and symptoms of pancreatitis include nausea, vomiting, severe abdominal pain, or decrease appetite. Contact healthcare provider if any of these symptoms occur. • Valproate should NOT be used in female children, in female adolescents, in women of childbearing potential and pregnant women (except where all other alternative has failed) due to its high teratogenic potential and risk of developmental disorders.

	• Use a reliable form of birth control. Concomitant of oestrogen-containing products, including oestrogen-containing hormonal contraceptives, may potentially result in decreased valproate efficacy. • Pharmacist must ensure that the Patient Card is provided to all women of childbearing potential using valproate and patients understand its content. Patients are advised to immediately contact a specialist in case of planned or suspected pregnancy.
Pregnancy	• Valproate is contraindicated during pregnancy unless there is no suitable alternative treatment. • Use of valproate during first trimester pregnancy may raise risk of neural tube defects (e.g., spina bifida) or other congenital anomalies.
Breast Feeding	• Valproate is excreted in human milk. Haematological disorders have been shown in breastfed newborns/infants. The potential benefits of breastfeeding should be weighed against the potential risk of adverse effects occurring in the infant. • If drug is continued while breast feeding, infant should be monitored for possible adverse effects. If infant shows signs of irritability or sedation, drug may need to be discontinued.

Reference:

1. Novartis Tegretol 200mg, Novartis Tegretol CR 400mg Leaflet
2. Lamotaxyl Tablets Leaflet
3. Sanofi Epilim 200 Enteric Coated, Epilim Chrono 500mg Leaflet
4. The Maudsley, Prescribing Guidelines in Psychiatry
5. Stahl, S. M. (2014). Essential Psychopharmacology: Prescriber's Guide, the Fifth Edition. Cambridge University Press.

6. Stimulants and Non-stimulants

Drug/ Type	Timing	Duration Of Action	Time to Peak	Onset	Common Side Effects
Methylphenidate (Stimulant)					
Short Acting Ritalin 10mg	BD: 8am & 12pm TDS: 8am, 12pm & 4pm	3-5 hrs	2 hrs	30-60 min	Decrease appetite, insomnia, headache, nervousness
Long acting Ritalin LA modified release 20mg, 30mg, 40mg	Every morning	8-12 hrs	5 hrs	30-60 min	As above
Ritalin SR 20mg	Morning and noon	3-8 hrs	4-7 hrs	30-60 min	As above
Concerta Extended Release (ER) 18mg, 36mg, 54mg	Once daily in the morning	10-12 hrs	Initial: 2 hrs Second: 6-8 hrs	1-2hrs	As above
Atomoxetine (Non-stimulant)					
Strattera	Once or twice a day	May take several weeks for optimal effect	-	-	Sedation, fatigue (particularly in children), decrease appetite, GI distress, insomnia, headache, irritability

Pharmacological Treatment for ADHD (Attention Deficit/ Hyperactivity Disorder)

In general, medications for the treatment of ADHD can be divided into stimulants and non-stimulants. Methylphenidate is the stimulant commonly used to treat ADHD, comes with few formulations in the market. Non-stimulant, atomoxetine as a second line treatment options will be the choice if treatment failure occurs with stimulants.

Warnings/ Precautions:

1. Stimulants have high potential for abuse. Prolonged administration may lead to dependence.
2. Misuse of stimulants may cause sudden cardiac death and serious cardiovascular adverse effects.
3. Sudden death may occur with pre-existing structural abnormalities, coronary artery disease or other serious cardiac problems.

A. Methylphenidate **Ritalin (tablet), Ritalin LA (capsule), Ritalin SR, Concerta ER**	
Class	Stimulant
Significant side effects	• Insomnia (usually occur at the beginning of treatment) • Nervousness (usually occur at the beginning of treatment) • Decrease appetite (mostly during lunch time and transient) • GI distress (abdominal pain, nausea & vomiting, usually occur at the beginning of treatment) • Headache • Exacerbation of tics • Irritability • Overstimulation • Tremor • Dizziness • Blurred vision • Growth suppression (controversial)
Counselling Points	• Ritalin (tablet) o Rate of absorption is faster when taken with food. Dosage should be standardized in relation to food to ensure consistency of effect. o May be taken BD to TDS, last dose should not be administrated too late in the day to minimize the risk of insomnia (no less than 6 hours before bed). • Ritalin LA (capsule) o Swallowed as whole capsule or administered by sprinkling the capsule contents on a small amount of soft food.

	○ The food should not be warm as it could affect the modified-release properties of the formulation. ○ All the mixture of drug and food should be immediately swallowed, unchewed, and should not be stored for future use. ○ The capsule and the content should not be crushed, chewed or divided. • Concerta ER ○ To be taken once daily in the morning ○ Swallowed as whole, must not be chewed, divided or crushed. ○ May be administered with or without food. ○ Contain nonabsorbable tablet shell, which will be eliminated from the body. Empty tablet may be noticed in the stool and this is normal. • All formulations should be taken in the morning, unless instructed differently by the doctor. • Insomnia ○ Evaluate time of administration. If afternoon dose is being given, give earlier in the day (no less than 6 hours before bed). • Decrease appetite – most appetite suppression during lunch time. ○ Advise patient to eat nutritious, high calorie breakfast and dinner. ○ Monitor body weight and discuss with doctor if decrease appetite / weight loss is problematic. • GI distress ○ To take with food. • To discuss with health care provider if patient taking other medications ○ the effect of methylphenidate (MPH) can be additive when used with other psychostimulants (e.g. caffeine) ○ MPH may counteract the effect of antihypertensives. ○ Antacids, PPIs and histamine-2 receptor antagonists may increase the absorption of MPH. • When taken appropriately, the risk of abusing stimulant is low. Untreated ADHD increase the risk of substance abuse compared with children with treated ADHD.
Pregnancy	• Use in women of childbearing potential requires weighing potential benefits to the mother against potential risks to the foetus. • For ADHD patients, MPH should generally be discontinued before anticipated pregnancies.

Breast Feeding	• MPH has been detected in human milk. • Recommended either to discontinue drug or bottle feed, taking into account the benefit of breast-feeding to the child and the benefit of therapy to the woman.

B. Atomoxetine	
Class	Selective Norepinephrine Reuptake Inhibitor (NRI)
Significant side effects	• Sedation, fatigue (particularly in children) • GI distress • Decrease appetite • Insomnia – give in the morning • Headache • Irritability • Increase BP is rare but possible • Dry mouth (Have fewer side effects on appetite and sleep, may cause more nausea and sedation)

Counselling Points	• Take at the same time of day without regard to meals.
	• GI distress
	  ○ To take with food.
	
	• Decrease appetite
	  ○ Advise patient to eat nutritious, high calorie meals
	  ○ Monitor body weight and discuss with doctor if decrease appetite / weight loss are problematic.
	
	• Insomnia – give in the morning
	• Patients and parents should be warned of the risk of suicidal thinking which may occur during the first few months of treatment.

Pregnancy	• Use in women of childbearing potential requires weighing potential benefits to the mother against potential risks to the foetus. • For ADHD patients, Atomoxetine should generally be discontinued before anticipated pregnancies.
Breast Feeding	• Unknown if Atomoxetine is secreted in human breast milk, but all psychotropic assumed to be secreted in breast milk. • Recommended either to discontinue drug or bottle feed.

References:

1. Ritalin, Novartis Sdn Bhd, Malaysia Package Leaflet, reviewed on 07 August 2017
2. Concerta, Johnson & Johnson Sdn Bhd, Malaysia Package Leaflet, reviewed on 14 Oct 2019
3. Stahl, S. M. (2014). Essential Psychopharmacology: Prescriber's Guide, the Fifth Edition. Cambridge University Press.

Appendix 1: Signs and Symptoms of Psychiatric Illnesses

No	Illness	Signs & Symptoms

1	**Schizophrenia**	Schizophrenia is a disorder that affect the way your brain receives and interprets information.
		
		Positive Symptoms:
		
		• Hallucination
		  ○ Hearing voices
		  ○ Seeing images which do not exist
		  ○ Smelling things which other people cannot
		• Delusion (fixed, false beliefs generally outside of cultural or societal norm)
		• Disorganized speech or behaviour
		
		Negative Symptoms:
		
		• Lack of motivation
		• Losing interest in life and activities
		• Problems concentrating
		• Not wanting to leave your house
		• Losing your normal thoughts and feelings
		• No energy
		• Poor grooming or hygiene
		
		Cognitive Symptoms:
		
		• Difficulty maintaining or shifting attention
		• Deficits in working memory and long-term declarative memory
		• Deficits in executive function
		• Deficits in skill acquisition

2	**Major Depressive Disorder**	Patients frequently present with depressed mood, irritability, anxiety, tearfulness and somatic complaints. • Reduction in mood, energy and activity • Reduced capacity for enjoyment, interest, concentration and fatigability. • Sleep and appetite are disturbed, • Lowering of self-esteem, ideas of guilt, worthlessness • Loss of libido • Psychomotor retardation and agitation • Weight loss / gain

		• Recurrent thoughts of death, or suicidal ideas or acts • patient may have of vague somatic complaints with no identifiable medical cause
3	**Bipolar Mood Disorder**	Mania / Hypomania episode: (Persistently elevated, expansive or irritable mood) • Increase energy or activity • Inflated self esteem • Reduce need of sleep • Increased talkativeness or pressure of speech • Increase in goal directed activity • Distractibility • Flight of ideas • Excessive involvement in activities with negative consequences Depressive episode • Reduction in mood, energy and activity • Reduced capacity for enjoyment, interest, concentration and fatigability. • Sleep and appetite are disturbed, • Lowering of self-esteem, ideas of guilt, worthlessness • Loss of libido • Psychomotor retardation and agitation • Weight loss / gain • Recurrent thoughts of death, or suicidal ideas or acts
4	**Dementia**	Symptoms vary depending on the type of dementia, but common signs and symptoms include: Cognitive changes: • Memory loss, forgetfulness • Difficulty communicating or finding words • Difficulty with visual and spatial abilities, such as getting lost while driving • Difficulty reasoning or problem-solving • Difficulty handling complex tasks • Difficulty with planning and organizing • Difficulty with coordination and motor functions • Confusion and disorientation

		Psychological changes: • Personality changes • Depression • Anxiety • Inappropriate behaviour • Paranoia • Agitation • Hallucinations
5	**ADHD**	Inattention: • Fails to give close attention to details / make careless mistakes in schoolwork, at work or during activities • Difficulty sustaining attention in tasks/ play activities • Does not seem to listen when spoken to directly • Does not follow through on instructions and fails to finish school work and chores given. • Difficulty organizing tasks and activities • Avoids, dislikes or is reluctant to engage in tasks that require sustained mental efforts • Loses item necessary for task or activities • Easily distracted by external stimuli • Forgetful in daily activities Hyperactivity & Impulsivity: • Fidgets with or taps hands or feet or squirms in seat • Leaves set in situation when remaining seated is required • Runs about or climbs in situations where it is unacceptable • Difficulty playing or engaging in leisure activities quietly • Is often “on the go” acting as “if driven by a motor” • Talks excessively • Blurts out answers before questions have been completed

		• Has difficulty waiting for his/her turn • Interrupts or intrudes on others Adult ADHD symptoms may include: • Impulsiveness • Disorganization and problems prioritizing • Poor time management skills • Problems focusing on a task • Trouble multitasking • Excessive activity or restlessness • Poor planning • Low frustration tolerance • Frequent mood swings • Problems following through and completing tasks • Hot temper • Trouble coping with stress

Appendix 2: General Counselling Tips on Psychiatric Illnesses

A. Know your illness (please refer to the Signs & Symptoms of Major Mental Illness)

B. Know your treatment

What are the treatments available?

It is a treatable disease; modes of treatment include:

1. Medications
2. Psychotherapy/ counselling
3. Psychoeducation
4. Rehabilitation
5. Electroconvulsive therapy (ECT), indicated for schizophrenia and mood disorder.

How do medications relief symptoms?

- Medications work by adjusting the imbalance of chemicals in the brain
- Therefore, with medicine, your symptoms will improve
- However, it takes time for the balance of brain chemicals to occur, so it may take several weeks before you notice a difference in your symptoms

What is side effect?

- A drug's unwanted effects
- Many side effects can be annoying but most are not life threatening
- There are ways to manage these side effects so that they don't bother you.

What happen if you stopped taking your medicine?

- You may have a relapse
- The more relapse, the more difficult to recover
- Quality of life is affected

Dealing with Side Effects

Side Effects	**Way to Cope**
Seizures	• Get medical help immediately/ inform doctor if you have any of these side effects
Neuroleptic malignant syndrome Muscles very stiff, high fever, feeling very confused	

<table>
<tr><td>Dystonia
Uncontrolled muscle spasm which may cause stiff neck and tongue, eyes may roll up</td><td rowspan="2"></td></tr>
<tr><td>Tardive Dyskinesia
Involuntary muscle movement</td></tr>
<tr><td>Akathisia
Feeling of restless</td><td rowspan="10">• Tell your doctor if you experience any of these side effects</td></tr>
<tr><td>Akinesia
Feeling slowed down</td></tr>
<tr><td>Blurry vision</td></tr>
<tr><td>Tremors</td></tr>
<tr><td>Muscle stiffness</td></tr>
<tr><td>Urinary retention</td></tr>
<tr><td>Milk leaking from breast</td></tr>
<tr><td>Missed menstrual period</td></tr>
<tr><td>Sexual difficulties</td></tr>
<tr><td>Constipation</td><td>• Drink adequate amount of fluid daily
• Eat foods that rich in fibre
• Avoid large amount of food that may worsen constipation
• Do light exercise or physical activity everyday
• Tell your doctor</td></tr>
<tr><td>Dizziness
Usually temporary</td><td>• Rise slowly from lying or sitting positions</td></tr>
<tr><td>Drowsiness
Usually temporary</td><td>• Use caution if you plan to do activities that require you to be alert (e.g. driving)</td></tr>
<tr><td>Dry mouth</td><td>• Suck on sugar free, hard, sour candy
• Sip water
• Suck on ice chips</td></tr>
</table>

	• Chew gum • Tell your doctor
Weight gain and increase appetite	• Eat a balanced, low calorie diet • Exercise regularly

Reference: Psychoeducation module 2

C. Prevention of Relapse & How to Manage Relapse

What does relapse mean?

- Old symptoms are returning or their regular symptoms are getting worse
- Different people have different experiences and different description for relapse

How do manage relapse?

- Identify the cause and risk of relapse
- Recognizing early relapse or early warning symptoms
- Five steps to managing a relapse
    1. Know the early warning symptoms you usually get
    2. Watch your symptoms every week, notice if they get worse or if new ones appear
    3. Recognize that you are starting to relapse
    4. Call a member of your treatment team (doctor, nurse, or medical assistant). Tell them you are starting relapse
    5. Take action to stop the relapse

What are the early warning symptoms?

- Changes you notice when you first getting sick again
- Symptoms that come back at the beginning of a relapse
- Strange things you experience when you start to get sick again
- Changes in your behaviour that other people notice when you start to relapse
- Example:
    - Having poor sleep at night
    - Finding it hard to concentrate
    - Forgetting things more often than usual
    - Feeling nervous or worries all the time
    - Hearing voices or seeing images
    - Feeling afraid of people, places, or things that you usually feel comfortable with
    - Having thoughts that people are talking about you or laughing at you
    - Withdrawing from others or staying in your room
    - Smoking more than usual

Take home message:

- Antipsychotics do not ‘cure’ schizophrenia. They treat symptoms in the same way that insulin treats diabetes.
- Many drugs are available. Different drugs suit different patients. Perceived adverse effects should always be discussed, so that the best tolerated drug can be found.
- Long term treatment is generally required to prevent relapses.
- Medications should never be stopped suddenly.
- There are ways to manage these side effects so that they don’t bother you.
- Psychological and psychosocial interventions increase the chance of staying well.
- Learn about your early sign symptoms before it relapses.

Strategies to Improve Adherence

1. Adherence to treatment is a key issue; address the importance of consistent dossing for best response to medication.
2. Positive therapeutic alliance, including a therapeutic relationship where patient goals are identified and related to treatment outcomes, may impact adherence.
3. Focus on patient attitudes and behaviour with respect to medications.
4. Identify barriers that may lead to non-adherence (financial, living distance from the clinic to patient house, cognitive impairment or disorganization not allowing patient to remember medication, working hour).
5. Incorporate patient and family input into the decision on what antipsychotic to choose. The patient centred approach increases adherence and improves relationship with the patient.
6. Medications calendars, pill boxes, alarm may help with reinforcing adherence.
7. Addressing concerns regarding adverse effects may reinforce adherence.

Appendix 3: Sleep Hygiene

1. Avoid the use of caffeine-containing products, nicotine and alcohol especially later in the day.
2. Avoid heavy meals within 2 hours of bedtime.
3. Avoid drinking fluids after dinner to prevent frequent night time urination.
4. Avoid environments that will make you really active after 5 pm (i.e. avoid noisy environments).
5. Only use your bed for sleep. Sit in your chair when you just want to relax.
6. Avoid watching television in bed.
7. Establish a routine for getting ready to go to bed.
8. Set time aside to relax before bed, and utilise relaxation techniques.
9. Create an atmosphere conducive to sleep: Keep yourself at a comfortable temperature by modifying the number of blankets you use. Use earplugs if it is too noisy. Make the room darker if there is too much light (e.g. close the door). Put an extra mattress on your bed if is uncomfortable.
10. When in bed, relax and think pleasant thoughts to help you fall asleep.
11. Get up at the same time every day, including weekends. Use an alarm clock if it will help.
12. Avoid taking daytime naps. If you have to take them, make sure you do so before 3.00 pm and that the total napping time does not exceed one hour.
13. Pursue regular physical activities like walking or gardening but avoid vigorous exercise too close to bedtime.

PSYCHIATRIC MEDICATION COUNSELLING

Guide for Pharmacists

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e ISBN 978-629-97335-0-8

9 7 8 6 2 9 9 7 3 3 5 0 8