**Therapeutic/Treatment Modalities**

**Psychopharmacological Treatment**

**Terms definition:**

**Medication management** is a crucial issue that greatly influences the outcomes of treatment for many clients with mental disorders.

**Efficacy**: The maximal therapeutic effect that a drug can achieve.

**Potency**: The amount of the drug needed to achieve that maximum effect

* Low-potency drugs require higher dosages to achieve efficacy.
* High-potency drugs achieve efficacy at lower dosages.

**Half-life** The time it takes for half of the drug to be removed from the bloodstream.

* Drugs with a shorter half-life may need to be given three or four times a day.
* Drugs with a longer half-life may be given once a day.
* The time that a drug needs to leave the body completely after it has been discontinued is about five times its half-life.

**Classification of psychotropic Drugs**

**First, Antipsychotic drugs or neuroleptics**

* Drugs are used to treat the symptoms of psychosis, such as the delusions and hallucinations seen in schizophrenia, schizoaffective disorder, and the manic phase of bipolar disorder.
* Antipsychotic drugs work by blocking receptors of the neurotransmitter dopamine.
* Reducing as many of the psychotic symptoms, so it enables patients to participate more effectively in other forms of treatment
* It may take 2-4 weeks to see improvement, but some people respond better to one drug than to another
* Choosing the medication also depends on its side-effects.

**Types of Antipsychotic Drugs**

1. **Typical or conventional Antipsychotic Drugs:**
* They are the first generation drugs that were first developed in the 1950s.
* They are still useful; however, these medications case high risk of side effects.
* E.g. of these drugs are Haldol (haloperidol), Thorazine (chlorpromazine), and Stelazine (trifluoperazine)
1. **Atypical Antipsychotic:**
* They are the second generation antipsychotic drugs that were approved for use in the 1990s.
* They produce less extrapyramidal side effects.
* Atypical antipsychotic drugs are clozapine, asenapine, olanzapine, quetiapine, paliperidone, risperidone, sertindole, ziprasidone, zotepine, and aripiprazole.
1. **New Generation of Antipsychotics or Dopamine System Stabilizers**:
* The first drug was proved for use in 2002
* They control dopamine output; that is, enhance dopaminergic transmission when it is too low and reduce it when it is too high.
* This results in control of symptoms without some of the side effects of other antipsychotic medications.

**Therapeutic mechanism of action**

* Dopamine receptors are classified into subcategories (D1, D2, D3, D4, and D5).
* D2, D3, and D4 have been associated with mental illness.
* The typical antipsychotic drugs are strong antagonists (blockers) of D2, D3, and D4.
* Some atypical antipsychotics inhibit the reuptake of serotonin, so treating the depressive aspects of schizophrenia.

**Side-effects of Antipsychotic medications**

1. **Anticholinergic side effects**:
* It is the most common side-effects of conventional antipsychotic medications include (orthostatic hypotension, dry mouth, constipation, urinary retention, blurred vision, dry eyes, photophobia, nasal congestion, and decreased memory.
* These side effects usually decrease within 3 to 4 weeks but do not entirely remit.
* Antipsychotics inhibit the action of acetylcholine, the chemical transmitter by which the vagus nerve stimulates the stomach and intestines.)

2. Photosensitivity

3. Extrapyramidal side-effects (EPS)

* Akathisia: (Not being able to sit). Feeling restless or jittery, needing to fidget, pace around.
* Dystonia: sudden muscle spasm characterized by torticollis (twisting of neck), opisthotonos (spasm of the neck and back forcing the head backwards)
* Parkinsonism: tremor, stiffness, rigidity, stooped posture, shuffling gait, akinesia (feeling slowed down), and pill-rolling movement of fingers.
* Neuroleptic malignant syndrome: muscle rigidity, hyperpyrexia, hypertension, confusion, delirium
* Tardive dyskinesia: involuntary movements of face and body (lip smacking, tongue protrusion, rocking, foot tapping), impaired gait and posture

**Antipsychotic medication: Toxicity and overdose**

* The primary symptom of overdose is CNS depression, which may extend to the point of coma.
* Other symptoms include agitation, restlessness, seizures, fever, EPS, arrhythmias, and hypotension.
* Caring for a client with overdose includes monitoring vital signs, especially of cardiac function; maintaining a patent airway and gastric lavage.
* Antiparkinsonian medications may be given for EPS.
* Valium (Diazepam) may be given for seizures.

**Second, Antidepressant Drugs**

* Antidepressant drugs are primarily used in the treatment of major depressive illness, anxiety disorders, the depressed phase of bipolar disorder, and psychotic depression.
* Antidepressants interact with the two neurotransmitters, norepinephrine and serotonin, that regulate mood, arousal, attention, sensory processing, and appetite.

**Antidepressants are divided into four groups:**

1. Tricyclic and the related cyclic antidepressants (need 4 to 6 weeks for effectiveness

2. Selective serotonin reuptake inhibitors (SSRIs) need 2 to 4 weeks for effectiveness

3. MAO inhibitors (MAOIs) need 2 to 3 weeks for effectiveness

**Therapeutic effects**

* It is believed that during depressive episode, there is a functional deficiency of these neurotransmitters or hyposensitive receptors.
* Antidepressant medications increase the amount of available neurotransmitters by inhibiting neurotransmitter reuptake, by inhibiting monoamine oxidase (MAO) or by blocking certain receptors.
* Antidepressants do not cause dependence, tolerance, addiction or withdrawal.

 **Antidepressant medications can be classified as:**

* Older generation agents: multicyclics and monoamine oxidase inhibitors (MAOIs)
* New generation agents: selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs).

**Side Effects of Antidepressant medications**

* Both multicyclics and MAOIs may have anticholinergic effects, such as dry mouth, blurred vision, urinary retention and constipation.
* CNS effects include drowsiness, lethargy, insomnia and restlessness.
* In the early phases of treatment, orthostatic hypotension and tachycardia may occur.
* The common know side effects are sexual dysfunction and weight gain.
* Some medications cause sever sexual impairment and excessive weight gain, e.g. Elavil (amitriptyline), Adapin (doxepin) and Anafranil (clomipramine).
* The SSRIs and SNRIs have fewer anticholinergic effects, fewer cardiac effects, fewer sexual problems, less sedation and less weight gain.
* MAOIs decrease the amount of monoamine oxidase in the liver, which breaks down the essential amino acids tyramine and tryptophan.

**Toxicity and overdose**

* If MAOIs and other antidepressants are administered together, serious reactions may occur.
* CAUTION! Seven to 14 days should elapse between the use of MAOIs and other antidepressants.

**Third: Antianxiety medication**

* High-potency and short-acting benzodiazepines include Xanax (alprazolam), Ativan (lorazepam), Paxipam (halazepam) and Serax (oxazepam).
* Low-potency and long-acting benzodiazepines include Tranxene (clorazepate), Valium (diazepam) and Librium (chlordiazepoxide).

**Therapeutic effects**

* Benzodiazepine antianxiety medications act on the limbic system (the emotional brain)
* They produce a calming effect by increasing the effects of gamma aminobutyric acid (GABA) which reducing neuronal excitability (regulation of muscle tone).
* CNS depression can range from mild sedation to coma.
* Other physiological effects include skeletal muscle relaxation and anticonvulsant properties

**Side Effects**

* General sedative effects including drowsiness, fatigue, dizziness and psychomotor impairment.
* Long-term benzodiazepine has tendency to cause physical dependence.
* It is common for clients who fear the return of anxiety symptoms or believe they are incapable of handling anxiety without the drugs to overuse or abuse drugs

**Four: Mood Stabilizing Medications**

* Mood-stabilizing drugs are used to treat bipolar disorder by stabilizing the client’s mood and treating acute episodes of mania.
* Lithium is the best known and most often prescribed mood stabilizer.
* Several anticonvulsant medications have been added to this category recently, such as tegretol (carbamazepine), Depakene and Depakote (valproate) and Klonopin (clonazepam).
* Mood stabilizers increase GABA activity
* Lithium substitutes for sodium, calcium, potassium and magnesium. It also interacts with neurotransmitters.

**Side Effects**

* Side effects of lithium include lack of spontaneity, memory problems, difficulty concentrating, nausea, vomiting, diarrhea, and hand tremors.
* Weight gain and a worsening of acne often persist throughout treatment.
* Women taking Tegretol (carbamazepine) may have menstrual cycle irregularities and experience false positive pregnancy tests.

***Nurse’s Role in Teaching a Client who use medication***????????

* The nurse informs clients taking antipsychotic medication about the types of side effects that may occur.
* Encouraging clients to report such problems to the physician instead of discontinuing the medication.
* The nurse teaches the client methods of managing or avoiding unpleasant side effects
* Drinking
* Teaching clients to drink sugar-free fluids and eating sugar-free hard candy to ease dry mouth.
* Recommend the client who have photosensitivity to use sunscreen, because it causes the client to sunburn easily.
* Recommend the clients to take medications that cause drowsiness at night.
* Nurses should provide a written list of foods that the client should avoid while taking MAOIs to avoid hyperadrenergic crisis
* Hyperadrenergic crisis is a life threatening reaction when MAOI interact with special amino acid, such as tyramine, which are found in some food and beverages. This reaction is serious and can cause stroke or myocardial infraction.
* Monitoring blood levels periodically is important for clients who use lithium
* should never
* Clients should not discontinue benzodiazepines abruptly or without the supervision of the physician.
1. **Biophysical/ Somatic Treatment**
* Electroconvulsive Therapy (ECT) Introduced by Ugo Cerletti and Luciano Bini in 1938.
* During ECT, an electric current is passed through the brain, causing a seizure.
* Electric current is passed through the brain for 0.2 to 8.0 seconds.
* Induction of a seizure is necessary for therapeutic outcome.
* Seizure must be of sufficient quality to produce the best effect.
* Seizures are timed and subdivided:
1. Motor convulsions (at least 20 seconds)
2. Increased heart rate (for 30-50 seconds)
3. Brain seizure monitored by EEG (for 30-150 seconds)
* The patient is given an oximeter- monitored anesthetic to ensure optimal oxygenation.

**Preparation for ECT**:

* Pretreatment evaluation: physical examination, laboratory work (blood count, blood chemistry, urinalysis), and baseline memory abilities.
* Consent form; if profoundly depressed, signed by family members.
* Eliminate use of benzodiazepines or barbiturates for nighttime sedation because of their ability to raise seizure threshold.
* A trained electrotherapist and an anesthesiologist should be available.

**Nursing Responsibilities before ECT**

* NPO for 6-8 hours before ECT, except for cardiac, antihypertensive, and a few other medications.
* Administer Atropine at least an hour before treatment (to reduce secretions and counteract vagal stimulation).
* Ask client to urinate before the treatment.
* Remove hairpins, contact lenses, hearing aids and dentures.
* Take vital signs
* The nurse should be positive about the treatment and attempt to reduce the patient’s anxiety.

**Procedures during ECT**

* IV line is inserted.
* Electrodes are attached to the proper place on the head. Electrodes are typically held in place with a rubber strap.
* The bite block is inserted.
* Methohexital (Brevital) or another short- acting barbiturate is given IM (causing immediate anesthesia and preempting anxiety)
* Succinylcholine (anectine), a neuromuscular agent, is given IV (causes paralysis but not sedation). This prevents the external manifestations of grand mal seizures, thus minimizing fractures or dislocations.
* The anesthesiologist mechanically ventilates the patient with 100% oxygen immediately before the treatment.
* The electrical impulse is given for 0.2-8.0 seconds.
* The seizure should last a certain length of time to be of therapeutic value.
* If seizure lasts less than the expected time, the physician may stimulate another seizure.
* Seizures of more than 180 seconds is less favorable and can be terminated with diazepam or another benzodiazepine.
* Monitoring devices: heart rate and rhythm, BP, EEG.
* Ventilation and monitoring until patient recovers.

 **Nursing responsibilities after ECT**

* The nurse or anesthesiologist mechanically ventilates the client with 100% oxygen until the patient can breathe unassisted.
* Monitor respiratory problems.
* Reorient patient to time, place and person as he emerges from groggy state.
* Give benzodiazepine as needed (if in agitated state).
* Observe until client is oriented and stand, particularly when the patient first attempts to stand.
* Document all aspects of treatment.

**How does ECT work?**

* ECT alters the endocrine system in ways that promote an antidepressant effect.
* ECT alters neurotransmitter systems that contribute to mental disorders.
* ECT alters (raises) the seizure threshold, which in turn, causes an antidepressant effect.
* ECT alters (increases) the permeability of the blood-brain barrier.

**Number of Treatments**

* Two to three times a week, up to a total of 6-12 treatments (or until the patient improves or is obviously not going to improve).
* Many patients require continuation or maintenance of treatments to function at their best.

**Indications and who should receive ECT**

* Major Depression
* Primarily indicated for schizophrenia, but soon shifted to patients who are severely depressed (85%-90%).
* Those who require a rapid response (e.g., suicidal or catatonic patients)
* Those who cannot tolerate or be exposed to pharmacotherapy (e.g., pregnant women)
* Those who are depressed but have not responded to multiple and adequate trials of medication

**Contraindications to ECT**

* Very high risk individuals are those with (recent MI, recent CVA, intracranial mass, and increased ICP)
* High risk individuals are those with (angina pectoris, extremely loose teeth, severe pulmonary disease, severe osteoporosis, major bone fractures, glaucoma, retinal detachment, thrombophlebitis, and high- risk pregnancy

**Advantages of ECT**

* Fastest relief for depression.
* Safe procedure and more effective than antidepressants for certain groups of patients.
* Can be used safely and effectively in older patients and even in adolescents.

**Disadvantages of ECT**

* Provide temporary relief (does not provide a permanent cure)
* Clients might need another series of treatments and may need maintenance or continuation treatment (6-12 months or longer)
* Most frequent side effect: Memory impairment, both retrograde and anterograde.
1. **Psychotherapy**
2. **Individual psychotherapy**
* Individual Psychotherapy: A method of bringing about change in a person by exploring his or her feelings, attitudes, thinking, and behavior.
* Involves a one-to-one relationship between the therapist and the client.
* The key to success is the therapist-client relationship.
* A therapist’s theoretical beliefs strongly influences his or her style of therapy.

**Stages of Individual Therapy:**

1. Introduction
2. Working
3. Termination
* **Why clients seek psychotherapy:**
1. To understand themselves and their behavior
2. To make personal changes
3. To improve interpersonal relationships
4. To get relief from emotional pain or unhappiness

**2. Group therapy**

* Clients participate in sessions with a group of people.
* Members share a common purpose and are expected to contribute to the group to benefit others and receive benefit from others in return.
* Group rules are established, which all members must observe.
* Being a member of the group allows the client to learn new ways of looking at a problem or ways of coping with or solving problems and also helps him or her to learn interpersonal skills.

For example: by interacting with other members, clients often receive feedback on how others perceive and react to them and their behavior.

* Group techniques and processes are used to help group members learn about their behavior with other people and how it relates to core personality traits.
* Members can also learn they have responsibility to others and can help other members achieve their goals.
* Members can make positive changes in their behavior by interacting and communicating with others as a member of a group.
* Group can be organized around a specific medical diagnosis (e.g., depression) or a particular issue (e.g., improving interpersonal skills or managing anxiety).
* Often formal in structure with one or two therapists as group leaders.
* Leaders establish rules that deal with confidentiality, punctuality, attendance, and social contact between members outside of group time.

**Types of Group Therapy:**

1. Open groups: Ongoing and run indefinitely, allowing members to join or leave the group as they needed to.
2. Closed groups: structured to keep the same members of the group for a specified number of sessions.

**Therapeutic Results of Group Therapy:**

1. Gaining new information or learning new strategies.
2. Gaining inspiration or hope.
3. Interacting with others.
4. Feeling of acceptance and belonging
5. Becoming aware that one is not alone and that others share the same problems
6. Gaining insight into one’s problems and behaviors and how they affect others
7. Giving of oneself for the benefit of others (altruism)
8. **Family Therapy**
* A form of group therapy in which the client and his or her family members participate.
* Can be used both to assess and to treat various psychiatric disorders
* Included family member usually is identified initially as the one who has problems and needs help

**Goals of Family Therapy:**

1. Understanding how family dynamics contribute to the client’s psychopathology
2. Mobilizing the family’s inherent strengths and functional resources
3. Restructuring maladaptive family behavioral styles
4. Strengthening family problem- solving behaviors
5. **Education Groups**
* Provide information to members on a specific issue- for instance, stress management, medication management, or assertiveness training.
* Group leader: nurse, therapist, or a health professional who has expertise in educational therapy
* Education groups usually are scheduled for a specific number of sessions .
* Usually, the leader presents the information and then members can ask questions or practice new techniques.
1. **Support Groups**
* Support groups are organized to help members who share a common problem to cope with it.
* Group leader explores members’ thoughts and feelings and creates an atmosphere of acceptance so that members feel comfortable expressing themselves.
* Often provide a safe place for group members to express their feelings of frustration, unhappiness, and also discuss common problems and potential solutions.

**Stages of Group Development**

1. **Initial stage:**
* commences as soon as the group begins to meet.
* Members introduce themselves
* Leader is selected
* Purpose is discussed
* Rules and expectations for group participation are reviewed.
* Group members begins to “check out” one another.
1. **Working stage:**
* Members begin to focus their attention on the purpose or the task the group is trying to accomplish.
* May happen relatively quickly or take 2-3 sessions in a therapy group.
* Cohesiveness: degree to which members work together to accomplish the purpose.
* When members think as “we”, it is an evidence that members value one another’s contributions.
1. **Termination Stage: The final stage:**
* Occurs before the group disbands.
* Work is reviewed, with the focus on group accomplishments or growth of group members, or both.

**Tasks of a Group Leader:**

* Giving feedback and suggestions
* Encourage participation from all members (eliciting response from quiet members and placing limits on members who may monopolize the group’s time)
* Clarifying thoughts, feelings, and ideas
* Summarizing progress and accomplishments
* Facilitating progress through the stages of group development.
1. **Cognitive Behavior Therapy**
* Cognitive therapy focuses on immediate thought processing- how a person perceives or interprets his or her experience and determines how he or she feels and behaves.

Example: If a person interprets a situation as dangerous, he or she experiences anxiety and tries to escape.

* Basic emotions of sadness, elation, and anger are reactions to perceptions of loss, gain, danger, and wrongdoing of others.

**Behavior Modification**

* Operant conditioning is the model used when patient’s behaviors are reinforced or maintained by consequences of the behavior.
* Include the patient in the process of behavioral diminishing, includes acceptable and unacceptable behaviors, as well as rewards and consequences.
* Contingencies that can be controlled by the therapist, patient, or family are altered to create a change in the problematic behaviors.
* Increasing the probability that a behavior will recur
* Strengthening good behaviors using Positive reinforcement technique.
* The timing of reinforcement is important.
* When reinforcers are presented according to a timed schedule (rather than being contingent on a particular response). Any behavior immediately preceding the reinforcer is strengthened.
* When a person is observed often enjoying a particular activity, the opportunity to engage in that activity can be used for other behaviors to occur.