ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2025

Student Name: ____Lillie Golub_____

ATI Scenario: Bipolar Disorder

To Be Completed Before the Simulation

*****Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation*

Medical Diagnosis: ____Bipolar Disorder_____

NCLEX IV *(8)*: Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

- Controls and coordinates the body's activities to maintain homeostasis
- General sensory input to be processed and processing of incoming information
- Generated impulses that control various voluntary and involuntary motor functions
- Stores information
- Two types of cells: neurons and neuroglia cells
- Neurons – functional unit of the NS. Purpose is to transmit messages
- · Vary in shape and size but all have 3 common characteristics
- ¨ excitability – ability to generate an impulse
- ¨ conductivity – ability to transmit the impulse within itself
- ¨ influence- able to transmit impulse to influence other neurons
- · Components of the neuron
- ¨ Cell body – center of the neuron; form the gray matter of the brain
- ¨ Dendrites –projects from the cell body – receives impulses and directs them toward the cell body
- ¨ Axon – carries impulses away from the cell body –
- may be with or without a myelin sheath ·Myelin Sheath
- Axons that are coated with a myelin sheath are known as myelinated
- ¨ This covering insulates, maintains, and speeds axon transmission
- Lipid substance that gives white color to white matter in CNS

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

- Dopamine ↑ during mania and ↓ during depression
- Serotonin ↓
- Norepinephrine ↑ during mania and ↓ during depression
- Characterized by mood swings from profound depression to extreme euphoria/mania, with intervening periods of normalcy.
- Chronic disorder.
- Factors such as metabolic/hormones such as thyroid disorders or pregnancy can trigger an episode.
- Having a first degree relative increases the risk up to 15%.
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- Delusions may or may not be present of the clinical picture.
- Somewhat milder form of mania is called hypomania.
- Average age of onset is 18 years old.
- Comorbidities: other mental disorders. CVD, metabolic diseases, endocrine disorders, T2DM, obesity.
- Two types of BPD
- Bipolar Disorder:
  - Most severe
  - Shifts in energy, mood, and ability to function
  - Normalcy of function alternates with periods of illness.
  - At least one episode of mania with intense mood disturbances. 1week for most of the day, every day. Marked impairment in social and occupational functioning.
  - High mortality rate.
  - Hospitalization is usually needed.

- · Classification of Neurons: structural and functional
- Structural –defined by the processes/ poles they have
- Multipolar – cell body, 1 axon, several dendrites
- Bipolar – 1 axon, 1 dendrite
- Unipolar – only 1 pole or process – close to cell body
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- Repair, support, and protect the neurons
- Neuroglia cells 5-10 times more numerous than neurons
- ·Most common source of primary tumors because they are mitotic-they easily divide and replicate
- Oligodendrocytes – important to know = produces myelin sheaths on axons-What does it do? Speeds transmission
- Astrocytes – found mostly in gray matter, accumulate in areas where neurons have been damaged and contribute to formation of scar tissue (gliosis), feed neurons, form the BBB, aka star of NS
- Ependymal cells – aid in secretion and regulation of CSF
- CNS: neurons in the CNS have limited ability to repair themselves and once believed to have no ability to generate new cells
- · PNS: nerve regeneration does occur but it is a slow process
- Nerve Impulse Conduction
- travels by electrical transmission along axon and chemical transmission between neurons until impulse reaches its destination
- · electrical impulse is a result of K+ and Na+ ions moving in and out of the cells all along the length of the axon
- ¨ resting state-no impulse-high K+ in cell
- ¨ depolarization-channels in the cell membrane open and Na+ rushes in (deploys) high Na+ in cell
- ¨ repolarization-K+ channels open and it slowly enters to bring balance back to the cell membrane (returns to resting)
- Action potentials –electrical impulse that travels along the axon by depolarizing and repolarizing the length of the axon is an action potential-doing the WAVE
- § impulse reaches the end of the nerve fiber then is transmitted across the junction

- o Manic episodes alternate with depressive states
- <u>Bipolar II Disorder:</u>
- o Severe and prolonged periods of depression that alternate with brief periods of hypermania (less severe mania- euphoric, excess energy. It lasts for 4 days).
- o Has never met criteria for full manic episode
- Reduced volume and activity in prefrontal cortex which regulates mood and decision making, impulse control.
- Amygdala is enlarged and hyperactive involved in emotion.
- Hippocampus often displays a reduction of volume and involves memory and mood regulation.
- Limbic system contributes to reward-seeking behavior in mania.
- Theory of neurotransmitter dysregulation that affects serotonin, glutamate, gamma-aminobutyric acid, or dopamine.

between nerve cells (synapse) • § chemical interaction generates another action potential in the next neuron • § this process is repeated until the impulse reaches its destination (muscle, gland, organ) • Saltatory conduction • · Type of nerve conduction when the axon is myelinated • · Myelin sheath coats the axon like sausage links • · Action potential jumps from 1 node of Ranvier to the next – this hopping makes the impulse increase velocity (travel faster) and conserves energy • ¨ Nodes of Ranvier – gaps in the myelin on axons that speed impulse along • · with saltatory conduction the Na+ and K+ ions are only required to move in and out of the cells at the nodes instead of depolarizing and repolarizing the entire length of the axon • §synapse – junction or space where nerve impulse is transmitted from 1 neuron to another • · neurotransmitter – chemicals involved in the transmission of an impulse across the synaptic cleft to the receiving neuron • ¨ acetylcholine – • ¨ serotonin – • ¨ norepinephrine – • ¨ dopamine • v Divisions of the nervous system – central and peripheral • Central nervous system consists of the • brain • · cerebrum • · brainstem – midbrain, pons, medulla • · cerebellum • spinal cord • Peripheral nervous system consists of the • 12 pairs cranial nerves 31 pairs spinal nerves • autonomic nervous system • · sympathetic • · parasympathetic • Nervous System Protective Structures • cranium – bony protection for the brain 14 facial bones • cranial bones: 2 each fontal, temporal, parietal, occipital • · skull is rigid and does not allow much		

extra space • Divisions of the nervous system – central and peripheral • Ø Central nervous system consists of the • brain • · cerebrum • · brainstem – midbrain, pons, medulla • · cerebellum • spinal cord • Ø Peripheral nervous system consists of the • 12 pairs cranial nerves • 31 pairs spinal nerves autonomic nervous system • · sympathetic • · parasympathetic • Ø Nervous System Protective Structures • cranium – bony protection for the brain • · 14 facial bones • · 8 cranial bones: 2 each fontal, temporal, parietal, occipital • · skull is rigid and does not allow much extra space – • · frontal – form forehead • · occipital – large bone at base of skull • · temporal – forms sides and base • · parietal – forms sides and top of skull • · Foramen magnum – largest hole in our skull. What comes through here? brain stem extends to spine foramen means opening and magnum meaning big • Scalp – outermost layer of protection – fibrous and freely movable • Meninges – beneath our rigid skull with all its bones is the meninge layers • · Layers (3) of protective membrane that surround the brain and spinal cord • ¨ Dura mater – outermost, thickest and toughest • ¨ Arachnoid – middle layer – thin, delicate, loosely encloses the brain and spinal cord. Pathway for the flowing of CSF in the brain and Spinal Cord • ¨ Pia Mater – innermost layer covering the surface of the brain and spinal cord, mesh like, vascular • · spaces of the meninges • ¨ epidural – epi-above so above the dura- potential space between skull and outer dura of the brain • ¨ subdural – below the dura, between dura and arachnoid layer • ¨ subarachnoid - between arachnoid and pia		

mater – where the CSF is contained • · Protective Anatomy • ¨ Falx cerebri-fold of dura that separates the 2 cerebral hemispheres allows for some expansion without pressure being placed on the opposite cerebral hemisphere • ¨ Tentorium cerebelli – double dura layer folds between the cerebral hemispheres and the cerebellum to prevent them from pressing on one another • Ø So the cerebrum can expand some and the thick dura protects it from affecting the cerebellum and brainstem • ¨ supratentorial – surgery above the tentorium • ¨ infratentorial – surgery below the tentorium • Brainstem – second major subdivision of brain • connects the spinal cord with the cerebrum and cerebellum • contains ascending and descending pathways for impulses going to and from the brain • point of attachment for CN III (3) through XII (12) • 10/12 cranial nerves originate in the brainstem • contains many reflexes – swallowing, cough, vomiting, hiccup. • midbrain, pons, medulla oblongata • Medulla oblongata –primary rhythm center- • Responsible for respirations, vasomotor (BP), and cardiac function (HR). • Reticular Formation-specialized system of neurons responsible for controlling the sleep-wakefulness cycle. Known as the RAS-reticular activating system. Involves consciousness and attention span(Why we wake in the middle of the night with a loud noise). • Cerebellum – located in posterior (back) fossa, superior to the brain stem, and inferior to the occipital lobe • Responsible for coordination of motor function and fine, smooth movement, balance, and trunk stability • Feedback loops correct movements by receiving impulses from the cerebral cortex and influencing motor activity • • Spinal Cord		

• Continuous with the brainstem and exits the cranial cavity (thick as a finger) • Elongated mass of nerve fibers that occupies the upper 2/3 of the vertebral canal • Extends from C1 to L1 (first cranial to first lumbar) • Protected by: vertebral column and meninges (Dura, arachnoid, pia) • Spinal Cord Matter-a cross section (bread slice) of the spinal cord shows an H shaped central core of nerve cell bodies (grey) surrounded by white matter ascending and descending tracts (myelinated axons) • Gray matter-motor neuron cell bodies, nuclei • Anterior/ventral – wider arms of the H • here is the primary motor neurons through which the spinal tracts carry motor response messages to the periphery (end organs) • Posterior (Dorsal)– thinner arms of the H • here are the primary sensory neuron through which peripheral nerve messages enter spinal cord and synapse with ascending tracts • White matter – myelinated nerve tracts – carry motor messages between the brain and the periphery • Sensory – afferent – message up, ascending tracts • Motor- efferent – message down, descending tracts • Ascending tracts – carry specific sensory (afferent) information to the brain from receptors in the peripheral NS • dorsal column (posterior) – carry impulses of position sense and movement, deep touch, pressure, vibration, kinesthesia (our appreciation of movement, weight, and body parts) • spinocerebellar tracts – enters spine ends at cerebellum • carry subconscious info about muscle tension and body position to cerebellum for coordination of movement • impulse enters sc and straight to the cerebellum (no crossing) • spinothalamic tracts – enters spine ends at thalamus • What is the function of the thalamus? Major relay station • carry pain and temperature control • Descending Tracts – carry motor impulses		

that are responsible for muscle movement. Exit the spinal cord via ventral root (wide H) • Corticospinal • Originate – primary motor cortex of frontal lobe • Crosses at medulla • Responsible for voluntary motor function • Each side of the brain controls the skeletal muscles on the opposite side of the body- Why? Because cross at medulla • Upper and Lower motor neurons carry efferent messages that influence skeletal muscle • damage to either can cause weakness and paralysis • Upper Motor Neurons (UMN) • Located in cerebral cortex • Lesions generally cause weakness, paralysis, hyperreflexia, and increased muscle tone (spastic) • Lower motor neurons-originate in the spinal cord • Final step of the nerve impulse before stimulation of skeletal muscle-connect CNS to muscle • Lesions/Damage cause weakness, paralysis, decreased muscle tone (flaccid), hyporeflexia (think slower lower Delaware) • Reflexes • Involuntary response to a stimulus – pathway is a reflex arc • receptor organ – has specific sensory fibers that are sensitive to stimulus • Monosynaptic Reflex-simplest type-four steps • Receptor organ ie.. skin • Sensory neuron activated by stimulus (afferent pathway) • Information processed in the spinal cord • Motor neuron activated (efferent pathway) • Example: superficial or cutaneous reflex– skin touches a hot stove, sensory impulse sent to spinal cord, motor message pulls hand away • Peripheral Nervous System • Includes all nervous system structures that lie outside CNS • 12 pairs cranial nerves; 31 pairs spinal nerves and autonomic NS • Cranial Nerves • Carry sensory fibers or motor fibers or both		

• Come in pairs (one for each eye, ear, etc) • CN innervate a specific segment of the brain (remember 10/12 exit at the brainstem) • • Brain • Consists of 3 major divisions – cerebrum, brain stem, cerebellum • anatomical landmarks • gyrus – "convolution" fold on the surface of the brain that increases its surface area • fissure – deep predictable separation in cerebral hemispheres • Great longitudinal fissure – divides cerebral hemispheres into Rt and Lt • cerebrum • largest part of the brain • nerve centers associated with sensory and motor functions and higher mental functions located here (memory, reasoning) • cerebral cortex – outer layer- gray matter What's in there? Billions of neuron cell bodies and dendrites cover each hemisphere – under this is white matter (myelinated axon tracts) • 2 hemispheres • 2 hemispheres divided by? Great longitudinal fissure • Each hemisphere has four lobes • frontal, parietal, temporal, and occipital • frontal • right controls left side of body • left controls right side of body (contra-lateral) • voluntary gross motor function • memory • higher cognitive function (problem solving) • judgment • Broca's area – found in frontal lobes = responsible for expressive speech the formation of spoken words (motor). Able to understand well but difficulty saying words. (Ie.. how did you get to the office today? D-d-d-d-drive c-c-c-car) words forced out slow with stuttering. • damage here in dominant hemisphere = expressive aphasia (no motor integration of lips, mouth, inability to express thoughts) can't form words • cerebral dominancy for 90% of persons is in the Left frontal lobe – all right handed people and most left handed		

• Parietal lobes • primary sensory area – interpretation of sensory thought • sensations of touch, pressure, position • body awareness- for example- where is your L buttocks? If you have to turn and look then something is wrong with your parietal lobe. • spatial awareness? Ability to comprehend your position in relation to the world around you ie furniture-It is why I don't walk into the podium (usually) • Temporal lobes • auditory reception – hearing and interpreting sound • we hear music, have memory of sound, and understanding of language and music (ability to recite lyrics) • Wernicke's area – responsible for understanding and interpretation of written and spoken language (reading a book, listening to lecture) • damage= receptive aphasia • able to form words but unable to understand others • Occipital lobes • primary receptive area for vision and visual association • What happens with damage to this lobe? • Inability to recognize & identify objects • Special structures of the cerebrum • Basal Ganglia – basal (base) ganglia (clump of neurons) • base of the cerebrum-deep in the center of the cerebral hemispheres (put one finger through your eye and one through your ear and you found it). • initiation, execution, and completion of voluntary movement • automatic motor movements (ie swallow, blink, arm swinging) • Diencephalons • area in the brain sits on top of the brainstem includes the thalamus and hypothalamus • Thalamus – relay station for all sensations - grand central. Impulses regarding sensations sent through here • Hypothalamus – Very Busy- regulates the autonomic NS (involuntary body functions) endocrine function (effecting pituitary secretions) and influence is responsible for temp control, fluid balance, reproduction,		

metabolism, hunger center controlling appetite, • Limbic system- Primal human features. Feeding and sexual behaviors, and emotional responses rage, fear, and depression.		

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for Injury related to extreme hyperactivity

Goal 1: Will make no attempt at self-harm with or without aid of staff or medication during time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess sleep patterns daily	Administer ordered medication such as benzo at bedtime
Assess level of anxiety prn	Remove from area in to quiet and calm are prn
Assess for level of agitation prn	Have perform physical activity such as walking
Assess for inappropriate behaviors	Use firm and calm approach when confronting pt and set limits on behavior prn.
Assess environment prn	Remove all potentially dangerous objects from environment
Assess patient medication effectiveness daily	Have staff meeting daily about patient

Goal 2: Will demonstrate self-control with aid of staff or medication during time of care.

To Be Completed Before the Simulation

Anticipated Patient Problem: Imbalanced nutrition

Goal 1: Will eat at least 50% of every meal during my time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess mucous membranes and skin turgor.	Provide preferred caffeinated and hydrating beverages prn and ad lib.
Weigh daily	Provide meals that are easy to move with such as a sandwich or protein shake.
Assess meal tray during every meal.	If less than 50% provide high calorie snack prn through the day.
Monitor I&O q3-4hours and prn	Collaborate with nutrition to individualize meal and ensure patient is getting proper nutrition.
Assess for cultural and religious dietary considerations daily	Encourage patient to participate in meal planning
Asses lab values daily	Collaborate with provider about ordering additional vitamins to help with any deficiencies due to lack of nutrients until normal eating habits begin

Goal 2: Will not loose any additional weight during my time of care.

To Be Completed During the Simulation:

Actual Patient Problem #1: Risk for injury do to extreme hyperactivity
Goal: Will not harm self or others during time of care. Met: ☐ Unmet:☐
Goal: Will not show signs of agitation during time of care Met: ☐ Unmet:☐

Actual Patient Problem #2: Deficient knowledge
Goal: Will name one side effect of one medication. Met: ☐ Unmet:☐
Goal: Will state the understanding of why at least one medication is needed once during time of care such as "this medication will help me get better" Met: ☐ Unmet:☐

Additional Patient Problems:
#3r/f malnutrition
#4
#5
#6

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem (#)	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/ Evaluation
r/f injury due to Extreme hyperactivity	1100	Pressured speech Clang association Smeared makeup Overdressed Difficulty focusing Loud speech Smiling Inability to stand still Minimized judgement insight Disoriented cognition/orientation ST memory impaired LOC : fatigued Thought content: grandiose thinking, racing/magical thinking Hyper-verbal and looseness of association Family hx of mental illness Seductive behavior	1230	Administer ordered IM olanzapine and start Lithium therapy.	1500	Energetic Dancing Yelling and disrupting group

		towards nurse				
Deficient knowledge	1330	Refused to accept ordered IM olanzapine Administer ordered Lorazepam PO q4 hours PRN for agitation	1330	Explained to patient that Dr. Price prescribed it to help feel better and that PO olanzapine medication will continue after IM shot next day	1430	Agreed to ordered IM olanzapine
Deficient knowledge	Next day 1000	Asked why blood was drawn previous day "did you tell them I have aids?!"	1000	Educated patient that the doctor has to assess the lithium tolerance with blood work.	1030	Not pregnant- HCG <0.01 T3: 110ng/mL T4: 7mcg/dL TSH: 3.0ng/mL BUN: 15 mg/dL Na: 140 mEq/L Administer first dose of lithium Patient will need continued education and reassessment of knowledge
R/f Extreme Hyper activity	1000	Flight of Ideas Racing thinking Poor concentration	2200	Administer Lithium carbonate as ordered 300 mg PO BID daily	1200	Inability to concentrate and make eye contact Quiet Inability to sit still Appeared unkempt
				Administer ordered 600mg Lithium carbonate PO as ordered at bedtime 2200		
Deficient knowledge	1200	Assess knowledge of lithium Mother asked how sodium can affect medication a	1300	Consume 2-3L of fluid/day Maintain normal Na intake Always take medication with meals No need to avoid food with tyramine or change position slowly Educated on how sodium can cause lithium toxicity Provided written	1300	Mother verbalized understanding when stating, "that will help me remember the importance of sodium in Susan's diet."

				information		
				Meet with team about plan of care		
Risk for malnutrition	1600	Offered meal Distracted when dinner offered	1600	Provide sandwich, chips, banana, and non-caffeinated beverage. All food that can be taken easily if unable to stay still.	1600	Took half a sandwich and left after inappropriate behavior towards nurse.
Deficient knowledge	1630	Assessed knowledge on s/sx of lithium toxicity before discharge	1630	Educated on s/sx of lithium toxicity such as unsteady gait, blurred vision, or decreased urine output and provider must be contacted immediately or go to the hospital. Eased patients fears that lithium is an effective medication for BPD and as long as s/sx are caught early these serious symptoms can be avoided.	1700	Stated “no I think I can understand” when asked if she had any questions. Patient nodded after knowing that recognizing early s/sx can prevent serious side effects.
R/f extreme hyperactivity	0900	**1 week later** Well groomed Clear and normal rate of speech Clean clothes Able to stay still and clearly thanked nurse	0900		**2nd admission**	Readmitted for suicide Withdrawn
r/f Injury to self	1100	Suicidal ideation Attempted suicide Reported isolation “I feel like I’m in a big black dark hole.” Has plan “I did take a bottle of acetaminophen out of my mother’s bag” Body in fetal position in chair	1500	Ordered ECT	**0900 end of treatment**	Smiling Open posture. Able to communicate Clear speech

To Be Completed After the Simulation

The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations

NCLEX IV *(7)*: Reduction of Risk

Actual Labs/ Diagnostics

Not pregnant- HCG <0.01
T3: 110ng/mL
T4: 7mcg/dL
TSH: 3.0ng/mL
BUN: 15 mg/dL
Na: 140 mEq/L

NCLEX II *(3)*: Health Promotion and Maintenance

Signs and Symptoms

Grandiose
Pressured speech
Racing thoughts
Diminished ability to concentrate
Mania
Insomnia
Inappropriate behavior
Inflated self-esteem

NCLEX II *(3)*: Health Promotion and Maintenance

Contributing Risk Factors

Family History: (grandfather)

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures

Non-surgical : ECT

Surgical

Prevention of Complications

(Any complications associated with the client's disease process? If not what are some complications you anticipate)

Medication compliance

NCLEX IV *(6)*: Pharmacological and Parenteral Therapies

Medication Management

Lithium
Lorazepam
Lamictotrigen

NCLEX IV *(5)*: Basic Care and Comfort

Non-Pharmacologic Care Measures

ECT
Speaking to nurse

NCLEX III *(4)*: Psychosocial/Holistic Care Needs

Stressors the client experienced?

Depression following discharge

Client/Family Education

Document 3 teaching topics specific for this client.

- Medication side effects
- Reason for blood work
- Why medication is given

NCLEX I *(1)*: Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines were involved in caring for this client?)

Psychiatrist
Nutrition

Patient Resources

Support groups

Reflection Questions

Directions: Write reflection including the following:

1. What was your biggest "take away" from participating in the care of this client?
   That BPD is a chronic disease that takes time and patience to treat. It also may take trial and error of different treatment modalities and medications before something may be effective. No one patient is the same.

2. What was something that surprised you in the care of this patient?
   I was surprised that the staff was so lenient on letting the patient walk around the unit so freely unsupervised during her manic state.

3. What is something you would do differently with the care of this client?
   I would be firmer when the inappropriate advances were made. There were times the nurse did not address the comments like in the cafeteria.

4. How will this simulation experience impact your nursing practice?
   This simulation helps to remind me that despite the illness these are people who are sick with a disease that is not in their control. It takes patience and understanding. In addition, being empathetic with the family just as much as the family.

5. Discuss norms or deviations of growth and development that was experienced during the simulation, including developmental stage.

   A deviation of growth is that Susan is a middle adult who still lives with her parents. Typically at her age she would be living independently. She also would feel a sense of gratification from personal and professional achievements and by trying to commit suicide and making a plan that is a developmental task she did not achieve for this developmental stage.