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Medical Diagnosis/Disease: Crohn's Disease

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology Normal Structures

GI System

*The gastrointestinal system is responsible for breaking down food, absorbing nutrients, maintaining fluid balance, and eliminating waste.

-Mouth & Esophagus: The digestive process begins in the oral cavity, where food is chewed and mixed with saliva, initiating digestion before moving down the esophagus.

Mouth

-Mechanical digestion: Teeth break food into smaller pieces to increase surface area for enzymes.

-Chemical digestion: Salivary amylase starts carbohydrate breakdown. Lingual lipase begins the digestion of fats. Saliva contains mucins to lubricate food and antibacterial enzymes to limit microbial growth.

-The tongue then pushes food into the pharynx, where it is swallowed and enters the esophagus.

Esophagus

-A muscular tube (25 cm long) that propels food to the stomach via peristalsis.

-The lower esophageal sphincter prevents backflow of stomach acid into the esophagus.

-Stomach: The stomach is a J-shaped organ in the upper left abdomen that functions as a temporary food reservoir where proteins and fats begin to break down.

-Chemical Digestion: Parietal cells secrete hydrochloric acid (HCl), which:
Denatures proteins, preparing them for enzymatic digestion.

-Also kills ingested bacteria and pathogens

-Chief cells release: Pepsinogen, which activates into pepsin, breaking proteins into peptides.

-Gastric lipase, which starts fat digestion.

Intrinsic factor (from parietal cells) is necessary for vitamin B12 absorption in the small intestine.

Mechanical Digestion:

-The stomach contracts and churns food into chyme. The pyloric sphincter regulates chyme movement into the small intestine.

-Small Intestine (Duodenum, Jejunum, Ileum):

The small intestine (20 feet long) is the main site for digestion and nutrient absorption, divided into three sections:

Pathophysiology of Disease

Crohn's Disease

- Crohn's disease is a chronic inflammatory bowel disease characterized by inflammation that can affect any part of the gastrointestinal tract, most commonly the ileum and colon.

The disease is driven by a combination of genetic factors, immune system dysfunction (autoimmune disorder), and environmental influences.

-The immune system in Crohn's disease is overly activated, leading to chronic inflammation and tissue damage. The disease is associated with an exaggerated immune response, which produces inflammatory cytokines.

-Crohn's disease affects all layers of the bowel wall, resulting in thickening and fibrosis of the gastrointestinal tract. The ongoing inflammation causes the formation of skip lesions. Some common complications of Crohn's include strictures, fistulas, and abscesses. Chronic inflammation also interferes with nutrient absorption, particularly in the small intestine, leading to malabsorption and deficiencies, such as anemia from vitamin B12 and iron deficiency.

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics

Labs

-CBC/Chem

-Stool cultures for: blood, pus, or mucus

-Serum antibody testing

Additional Diagnostics

-Double contrast barium swallow

-CT/MRI

-Colonoscopy or capsule endoscopy

-Duodenum (10 inches) – Receives bile from the liver to emulsify fats and pancreatic enzymes (lipase, amylase, proteases) to digest macronutrients.

-Jejunum (8 feet) – Absorbs carbohydrates, proteins, fats, vitamins, and minerals with the help of villi and microvilli for increased surface area.

-Ileum (12 feet) – Absorbs vitamin B12, bile salts, and fat-soluble vitamins (A, D, E, K) and connects to the large intestine via the ileocecal valve.

Large Intestine (Colon): The large intestine (5 feet long) functions to: Absorb water and electrolytes from digested material. House gut microbiota (bacteria essential for digestion and immune function). Form and store stool before elimination.

The colon is divided into:

-Ascending colon (absorbs water and nutrients).

-Transverse colon (ferments fiber and produces short-chain fatty acids).

-Descending & sigmoid colon (stores stool).

-Rectum & Anus: The rectum stores feces until elimination.

The anal sphincters control voluntary and involuntary defecation.

Accessory Organs:

-Liver: Produces bile to aid in fat digestion and detoxifies blood.

-Gallbladder: Stores and releases bile as needed.

-Pancreas: Produces digestive enzymes and insulin to regulate blood sugar levels.

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- Genetic factors
- Family hx
- Low fiber diet
- High processed foods
- NSAID use
- Stress
- Age
- Smoking/alcohol use

Signs and Symptoms

- Diarrhea
- Weight loss
- Abd pain
- Fever
- Fatigue/weakness

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

- Non-surgical
- Endoscopic balloon dilation
 - Abscess drainage
 - Enteral nutrition

- Surgical
- Bowel Resection
 - Ostomy
 - Strictureplasty

Prevention of Complications

(What are some potential complications associated with this disease process)

- Hemorrhage
- Strictures
- Perforation
- C.Diff
- Abscesses
- Intestinal cancer, colon cancer
- Fistulas
- Malabsorption
- Anemia

NCLEX IV (6): Pharmacological and Psychosocial/Holistic

NCLEX IV (5): Basic Care and Comfort

NCLEX III (4):

Parenteral Therapies

Anticipated Medication Management

- Biologics
- Amino salicylates
- Antimicrobials
- Corticosteroids
- Immunomodulators

Non-Pharmacologic Care Measures

- Bowel rest, inflammation and infection control, fix malnutrition

Care Needs

What stressors might a patient with this diagnosis be experiencing?

- Fear, anxiety, depression, financial worries, chronic pain, dietary restrictions

Client/Family Education

List 3 potential teaching topics/areas

- Medication Adherence, take meds as prescribed.
- Low residue diet, maintain hydration.
- Stress management, avoiding alcohol, smoking and NSAID use.

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

- Nurses, Dietitian, PT/OT, Gastroenterologist, pharmacist, nutritionist, surgeon

Potential Patient Problems (Nursing Diagnoses)

To Be Completed Before the Simulation

Anticipated Patient Problem: Deficient Fluid Volume

Clinical Reasoning: Caused by GI bleed, diarrhea, vomiting, and impaired fluid absorption, especially during flare-ups. This leads to dehydration, electrolyte imbalances, and an increased risk of complications like hypovolemia and renal failure if not managed.

Goal 1: During my care, will maintain adequate hydration, with a urine output of at least 30ml/hr.

Goal 2: During my care, VS will remain stable, with a systolic BP of >90 mmHg and a heart rate of <90 bpm.

Relevant Assessments	Multidisciplinary Team Intervention
(Pework) What assessments pertain to your patient's problem? Include timeframes.	(Pework) What will you do if your assessment is abnormal?
Monitor vital signs (B/P, HR, RR) q2hr, PRN	Administer/maintain prescribed IV fluids Q2hr/PRN
Monitor and record I&Os q2hr,PRN	Assist in administration of PRBC (blood transfusion) as per the physicians orders.
Assess hydration status (skin turgor, mucous membranes, edema) q2hr/PRN	Encourage oral hydration (120 ml cup of water, ice chips, oral care) q2hr/PRN
Assess for signs of worsening dehydration (confusion, dizziness, weakness) q1hr/PRN	Encourage and assist with slow position changes to prevent orthostatic hypotension q2hr/PRN

Monitor hemoglobin/hematocrit lab values as ordered to assess for blood loss q8hr/PRN	Report symptoms such as fatigue, weakness, dizziness, or increased heart rate that might indicate anemia or blood loss, q2hr/PRN
Monitor stool and emesis output, frequency, and consistency q2hr/PRN	Administer antiemetic, antidiarrheal as prescribed. PRN

To Be Completed Before the Simulation

Anticipated Patient Problem: **Acute Pain**

Clinical Reasoning: **Crohn's disease is caused by inflammation, ulceration, and irritation of the GI tract, often in the lower abdomen. May be worsened by complications like strictures or abscesses, normally causes cramping, bloating, and tenderness.**

Goal 1: **By the end of my time of care, will report decrease or diminished pain on a 0-10 scale.**

Relevant Assessments	Multidisciplinary Team Intervention
(Prewrite) What assessments pertain to your patient's problem? Include timeframes.	(Prewrite) What will you do if your assessment is abnormal?
Assess pain intensity using a pain scale (0-10) q2hr/PRN	Administer prescribed analgesics as ordered/PRN
Monitor for signs of grimacing/guarding of abd. Q2hr/PRN	Provide comfort measures such as positioning or heat application PRN
Assess HR/BP q2hr/PRN	Maintain prescribed IV fluids as ordered.
Monitor for worsening symptoms (flare ups) during ADLS, Meals PRN	Offer small, frequent meals and avoid irritating foods, provided 120ml of water. PRN
Observe the patient's body position and movements PRN	Encourage relaxation techniques, such as deep breathing or guided imagery PRN
Assess for abd tenderness, distention, bowel sounds q2hr/PRN	Notify provider immediately for severe pain or absent bowel sounds. PRN

Goal 2: **During my time of care, will demonstrate the ability to use non-pharmacologic pain management techniques (such as relaxation, deep breathing, or heat application) to manage discomfort.**

To Be Completed During the Simulation:

Actual Patient Problem: *Deficient Fluid Volume*

Clinical Reasoning: GI bleed, dizziness, lightheaded, BP: 94/56, RR:26, HR:110

Actual Patient Problem: *Acute Pain*

Clinical Reasoning: Ednoscopy, 8/10 pain RLQ, abd discomfort, tenderness, and cramping.

Goal: During my care, will maintain adequate hydration, with a urine output of at least 30ml/hr.

Goal: During my care, VS will remain stable, with a systolic BP of >90 mmHg and a heart rate of <90 bpm

Goal: By the end of my time of care, will report decrease or diminished pain on a 0-10 scale.

Goal: During my time of care, will demonstrate the ability to use non-pharmacologic pain management techniques (such as relaxation, deep breathing, or heat application) to manage discomfort

Additional Patient Problems: *Ineffective Coping, risk for hypovolemic shock, Risk for Hypovolemic shock*

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
Deficient Fluid Volume	0830	Reports dizziness, lightheadedness, "feel like I'm going to faint", abd pain of 6/10 cramping.	0835	Assessed VS, administered oxygen via NC, 2L. Applied cold cloth to forehead.	0840	VS: BP 94/56, O2: 94%, RR: 26, HR:110.
Deficient Fluid Volume	0840	VS: BP 94/56, O2: 94%, RR: 26, HR:110, reports feeling worse, "going to throw up".	0845	Lowered HOB to elevate feet (help improve circulation. Preparing to administer blood transfusion (packed RBCs).	0915	During admin of blood transfusion reports feeling chilly, headache and body aches.
Risk for Hypovolemic shock	0915	Flushed face, headache, Temp: 38.8, RR:22, HR:96, BP: 103/60.	0915	Stopped the blood transfusion due to reaction, notified provider. Educated the different symptoms of a transfusion reaction.	0930	"Feel awful", Request Ibuprofen.
Risk for Hypovolemic shock	0940	Transfusion reaction (chills, restlessness, flushed face, temp of	0945	Administered 0.9% NaCl IV at 30ml/hr.	1005	BP: 98/60, HR 104, RR 22, consult Dr.Marsh for

		101.8)				endoscopy to locate GI bleed.
Acute Pain	1200	Post op endoscopy: 8/10 pain in RLQ, abd tender, cramping and discomfort.	1210	Administered Morphine 4mg IV, (1mg/min bolus)	1310	Pain of 2-3/10, no feeling of abd soreness or cramping.
Ineffective Coping	1330	Expressed having a stressful job as a stockbroker, leading to having up to 5 alcoholic drinks a night, unable to find other ways to relax	1335	Esther, RN provided active listening, educated alternative ways to manage stress and recommended alternatives to current diet.	1400	Receptive to the alternatives to stress and diet management and stated, "Feel so much better after talking to you".

ATI Virtual Clinical Questions and Reflection:

- 1) Identify two members of the healthcare team collaborating in the care of this patient:
 - a. **DR. March**
 - b. **Esther, RN**
- 2) What were three steps the nursing team demonstrated that promoted patient safety?
 - a. **Double check pt ID band and blood type before blood transfusion.**
 - b. **RN immediately stopped the blood transfusion when there was a reaction and then promptly notified the provider.**
 - c. **RN educate the pt before discharge to avoid the use of ibuprofen to prevent GI bleeding/further upset.**
- 3) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?
 - a. If **yes**, describe: **Yes, I do, especially when it came to RN Esther and her use of therapeutic communication and active listening. She was able to provide alternative stress management techniques for at home as alternatives to drinking a glass of wine and also provided information on dietary changes and to avoid the use of ibuprofen.**
 - b. If **no**, describe: _____

Reflection

- 1) Go back to your Preconference Template:
 - a. Indicate (circle, star, highlight, etc.) the components of your preconference template that you saw applied to the care of this patient.
- 2) What was the priority nursing problem? Provide rationale.

- The priority nursing problem was Deficient Fluid Volume due to the patient's GI bleed and Crohn's disease, which led to symptoms such as weakness, fatigue, dizziness, headache, and blood loss, all indicative of fluid deficit. This was evidenced by her VS, including a blood pressure of 94/56 mmHg, heart rate of 110 bpm, and respiratory rate of 26 breaths per minute, all pointing to compromised circulatory volume.

- 3) Review your Patient Problem Form: Did you see many of your anticipated nursing assessments and interventions used?
 - a. Were there interventions you included that *were not* used in the scenario that could help this patient?
 - i. If **yes**, describe: **Yes, "Administer antiemetic and antidiarrheal medications as prescribed, PRN" would have been beneficial in addressing Mrs. L's ongoing nausea. Additionally, "Encourage and assist with slow position changes every 2 hours or as needed to prevent orthostatic hypotension" could have been crucial, given her symptoms of weakness, dizziness, and a sensation of faintness.**

ii. If **no**, describe:

4) After completing the scenario, what is your patient at risk for developing?

a. Hypovolemic shock

b. Why? Due to blood loss, incomplete blood transfusion.

5) What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice?

- My biggest takeaway from participating in the care of this patient was the importance of being vigilant for adverse blood transfusion reactions and recognizing the key signs and symptoms (such as chills, changes in vital signs like fever, lower back pain, chest pain, and shortness of breath). This experience reinforced the significance of active listening in nursing practice. By truly listening to the patient, the nurse was able to gain valuable insights and provide education that could help prevent future hospitalizations and promote lifestyle changes that significantly impact the patient's well-being. In this case, the focus was on stress management, making informed dietary choices, and avoiding certain medications. This education was made possible simply by listening to the patient's story and gaining a deeper understanding of their daily life.

