ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2023

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ATI Scenario: Cystic Fibrosis: Community Care

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: Cystic Fibrosis

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

Anatomy and Physiology
Normal Structures

- Respiratory: respiratory tract is made up of upper lower tracts.
  - Upper: nose, nasopharynx, oropharynx, laryngopharynx, larynx, trachea to carina
  - Lower: R and L bronchus, bronchioles, alveolar ducts, and alveoli.
  - O2 is taken through the tract where it travels to the Pore of Kahn, where gas exchange occurs.
  - CO2 and O2 are exchanged. O2 enters the capillaries and then is pushed to the heart
  - 2 lungs (R+L); R 3 lobes, L 2 lobes.
  - Ventilation: inspiration and expiration occur because of the intrathoracic pressure is constantly changing.
  - Compliance: the measure of ease of elasticity and recoil
  - Resistance: airflow impeded during expiration/inspiration
- GI: alimentary canal extends from mouth to anus. also involves liver, pancreas, and GB.
  - Mechanical Digestion (mastication) and chemical digestion (amylase) begin in the mouth.
  - bolus is sent down esophagus and enters stomach via esophageal sphincter.
  - Mechanical and chemical digestion occur in the stomach. HCl and intrinsic factor (B12) are secreted by parietal cells. Mechanical digestion occurs via peristaltic contractions of the smooth muscle (churning)
  - Peristalsis propels chyme to enter SI via pyloric sphincter into the duodenum. Peristalsis continues to push the chyme into the jejunum then ileum
  - then progresses to the LI (absorbs water, E+, vitamins, forms and propels feces towards rectum) then to rectum then anus
  - Liver: makes bilirubin to breakdown hgb
- Reproductive system: produce and fertilize gametes and carry a fetus.
  - Ovaries produce and store ovum/ EST and testes produce and store sperm and testosterone
  - Fallopian tubs connect the ovaries w/ the uterus and are the site of fertilization
  - Uterus: site of development of the embryo
  - Vagina connects the cervix to the external female body parts and receives the sperm.
  - Males: vas deferens transport sperm from testes to urethra and the penis delivers sperm to the female repro tract

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

- Autosomal recessive disorder
- s/sx typically occur in childhood, but can un-dx until adulthood
- CF gene can be found on chromosome, creates a protein called CF transmembrane conductance regulator (CFTR), when mutated it increases secretions of smooth muscle thus producing thick, viscus, and sticky mucus
- Greatest effect on respiratory, GI, and repro systems
- Mucous plugs up ducts of organs and airways, causing scarring and resulting in organ failure
- Children w/ CF demonstrate decreased pancreatic secretions of bicarb and increase in Na and Cl d/t the mechanical obstruction caused by the viscus mucous gland secretion
- Thick secretions lead to pancreatic fibrosis. Blockage of pancreatic enzymes preventing digestion and absorption of nutrients and causing steatorrhea (oily stool)
- CF characterized by persistent chronic airway infections that cannot be cured.
  - Chronic infections → chronic inflammation → decreased respiratory fx
  - Common causative agents: staph aureus, h. influenzae, burkholderia cepacia
  - Will eventually cause destruction of lung tissue d/t scarring
- Disease is characterized by periods of stability then periods of exacerbation. As disease progresses and worsens, exacerbations become more frequent, bronchiectasis worsens, longer recovery, leads to respiratory failure
- s/sx: wheezing, coughing, frequent PNA, failure to thrive/malnourishment, steatorrhea, recurrent lung infections, wt loss, increased sputum, decreased pulmonary fx

To Be Completed Before the Simulation

Anticipated Patient Problem: impaired gas exchange

Goal 1: pt will not show s/sx of respiratory distressed as evidence by RR WNL (12-20 adult; 18-40 for kids 1-12y/o), vesicular lung sounds, and unlabored breathing

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?
Monitor VS (HR, RR) q4h and prn	Provide adequate rest after periods of activity q4h and prn
Assess sputum for color, amount, consistency q6h and prn	Educate on coughing and deep breathing
Assess lung sounds q4h and prn	encourage chest physiotherapy q4hr and prn
Assess SpO2 q 4h and prn	Raise HOB (30-45 degrees) when SpO2 $\leq$ 95% on RA
Assess cough (nonproductive/productive/pattern) q2h and prn	Admin bronchodilators (albuterol) prn
Assess LOC	Apply 2l/min O2 via NC prn

Goal 2: pt will maintain a SpO2 of >= 95% on RA during my time of care

To Be Completed Before the Simulation

Anticipated Patient Problem: r/f infection

Goal 1: pt will have a temperature of 36-38C 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 temp, HR, RR q4hr and prn	Admin antipyretic if T>100.4F
Monitor WBC q shift	Admin abx as ordered q shift and prn
Assess s/sx of systemic infection (n/v chills, malaise, anorexia) q shift and prn	Provide warm blankets, adequate rest periods, and foods from BRAT diet
Assess pt's knowledge of hand hygiene q shift and prn	Educate importance of HH q shift and prn
Assess sputum for color, consistency, and amount q4h and prn	Obtain sputum cx in AM prior to admin of abx
Assess pt's knowledge of CF q shift	Educate on importance of infection control (masks, social distancing, HH) q shift and prn

Goal 2: pt will have a WBC count (5-10) during my time of care

To Be Completed During the Simulation:

Actual Patient Problem: ineffective airway clearance
Goal: CS will demonstrate an improvement of airway clearance as evidence by no wheezing and no SOB during my time of care Met: ✓ Unmet:☐
Goal: CS will report a decrease in coughing after admin of levalbuterol 2.5mg and domase alfa 2.5mg during my time of care Met: ✓ Unmet:☐

Actual Patient Problem: readiness for enhanced knowledge
Goal: CS will demonstrate use of mucus clearing device during my time of care Met: ✓ Unmet:☐
Goal: CS will demonstrate alternative way to administer pancrelipase (opening cap and mixing w/ applesauce) Met: ✓ Unmet:☐

Additional Patient Problems: 3. Imbalanced nutrition: less than body requirements, 4. r/f infection, 5. r/f dysfunctional gastrointestinal motility 5. r/f unstable glucose 6. Activity intolerance

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
1, 2,	Day 1; 0800	Dad reported (+) sweat test. Coarse crackles b/l; Courtney stated she coughs a lot and finds it difficult to breathe	0805	RN Molly scheduled f/u appt	0810	10am f/u appointment schedule for next day to go over parents questions and concerns about CF
2, 3,6	Day 2 1000	Dad reported that Courtney had a cough that wouldn't go away. Parents concerned about Courtney's diet . Parents noticed that softball exacerbated symptoms	1005	RN Molly offered support and answered all parents' questions and concerns. Provided CF handout.	1010	Scheduled another f/u visit to discuss diet.
2,3	Day 3 1000	Courtney waned to tell her friends about her dx of CF. Mom expressed concern that students will make	1005	RN molly educated Courtney and parents on the importance of informing the school nurse about	1010	Parents reported that RN Molly made it so clear what cystic fibrosis is and how it impacts the body

		fun of Courtney		her dx of CF. Educated on increased Na and Cl. Educated on respiratory meds and tx		
2	Day 4; 1000	"creon is hard to swallow"; Mom expressed concern about Courtney's diet and meds	1010	RN Molly educated that Creon capsule can be opened and mixed w/ food. Educated on levalbuterol and dornase	1020	Courtney stated " I like applesauce" and this method works for administration
1,2	Day5; 1000	Courtney reported that she is coughing more and having yellow sputum	1010	RN Molly educated on percussion, vibration, and postural drainage w/ an increase In cough for 45mins long	1020	Family responded w/ 45mins is a long time, but will do anything to keep Courtney healthy
1,2,6	Day 6; 1730	Courtney reported that she coughs during and after softball	1745	RN Molly educated Coach about CF and chest physiotherapy.	1810	Coach stated that he will develop a warm up program for Courtney
1,2,4	Day 7; 1000	Mom expressed concern about other health conditions Courtney is at risk for	1020	RN Molly educated about delayed growth, OP, DM, delayed puberty	1045	Mom expressed that it is very overwhelming to consider
	Day 8; 1000	Courtney asked parents when molly is going to come back.	1010	RN molly gave a recommendation to call the office whenever they have questions. Provide pamphlet with parent support group	1030	Parents thanked RN molly. Stated how helpful RN Molly was

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
-(+) sweat test
-increased Cl and Na
- chest xr
- pft
-stool analysis

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

Signs and Symptoms
Course crackles
Productive cough
Thick secretions
SOB
Steatorrhea
Wt loss

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

Contributing Risk Factors
Family hx

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures
Non-surgical
Chest physiotherapy
Mucus clearance device
Rest
Surgical
lung transplant

Prevention of Complications
(Any complications associated with the client's disease process? If not what are some complications you anticipate)
delayed growth
OP
Recurrent resp. infections
DM
Reflux
Intestinal blockage

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

Medication Management
Pancrelipase 3caps PO w/ meals
Azithromycin 5mg/kg/day PO @ 1200
Dornase alfa 2.5mg via neb
Levalbuterol 2.5mg via neb QID
Vitamin E 400u PO daily
Probiotic

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

Non-Pharmacologic Care Measures
Chest physiotherapy
Mucus clearance device
Exercise (softball)

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

Stressors the client experienced?
Stress
Anxiety
Embarrassment
Loss of control
Discomfort
SOB

Client/Family Education

Document 3 teaching topics specific for this client.
•admin pancrelipase by opening capsule and mixing with applesauce
• high protein and high cal diet (150% RDA for age/size)
•support groups for Courtney to aid w/ coping

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

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)
Community health nurse
School nurse
Parents
Softball coach
Respiratory therapist
GI
PCP

Patient Resources
Community support groups
Cf pamphlet

Reflection Paper

Directions: Write reflection including the following:

1. What was your biggest "take away" from participating in the care of this client?
   Education and follow-ups are crucial for a patient and family with a new diagnosis. This simulation made me realize that a new diagnosis can effect not only the patient and their family, but also the school nurse and coaches. The family needed multiple follow-up appointments to fully comprehend the new diagnosis and the treatment that follows. The parents had many questions and needed reassurance

2. What was something that surprised you in the care of this patient?
   The thing that surprised me the most was the depth of education. Cystic fibrosis is scary, complicated disease that requires a lot of care. The family needed multiple follow-up appointments to fully comprehend the illness and how to treat it. I really liked how realistic this simulation was. The parents concerned seemed to be genuine and Molly was very flexible with them. Answered any and every question they had. Multiple sessions were scheduled for education purposes. Even the softball coach came to an appointment to learn how to deal with Courtney's CF.
3. What is something you would do differently with the care of this client?
   Honestly, I don't think I would change much. I think Molly did a really good job at educating the parents and Courtney. Molly recommended to inform the school nurse of this new diagnosis just in case of an emergency. Maybe I would've suggested for the coach to reach out to the school nurse and to inform the physical education teacher.

4. How will this simulation experience impact your nursing practice?
   This simulation really stressed the importance of good quality education to patients, family members, and others that are involved in the patient's life. If education was not given to the coach and school nurse, something bad may have happened to Courtney, or Courtney might have struggled when being physically active in school or at softball. Education was emphasized in all follow-up appointments to ensure that there were no unanswered questions.

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

In this simulation, I think Courtney was experiencing normal development. She was interested and curious about her new diagnosis. She wanted to be a part of the education and be present if her parents had any questions about CF. Courtney wanted to know everything about her illness, wanted to tell all her friends at school about it, and wanted to do everything herself so she could learn. I think that Courtney was in Piaget's concrete operational stage because she possessed the ability to apply logic and had a rational understanding of her illness and the education Molly provided her.