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 system

Respiratory tract: nose/mouth-pharynx (nasopharynx, oropharynx, laryngopharynx)- trachea- L &R mainstem bronchus – L&R lung (L lung: 2 lobes/ smaller, R lung: 3 lobes/bigger)- bronchi (lobar, segmental, and subsegmental)- bronchioles-alveolar ducts - alveoli- pores of khan (site of O2 and CO2 gas exchange between the alveoli)

Physiology:

-gas exchange through inspiration and expiration

-inspiration- diaphragm lowers, pressure decreases, and the alveoli expand

-expiration- diaphragm raises, pressure increases (still negative), and the alveoli contract

* Pressure is always negative*

-surfactant: keeps alveoli open (act as lubricant)

-ventilation: getting air in and out of alveoli

-perfusion: oxygen spreading through the body and blood vessels

-epiglottis: the epiglottis flaps open and closed, allowing only air into the respiratory tract and only food/water into the GI tract, helps prevent aspiration

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

-condition characterized by exocrine gland dysfunction that produces multisystem involvement, especially pulmonary and digestive

-autosomal recessive defective gene

-Mutated gene: chromosome 7, amino acids called cystic fibrosis transmembrane conductance regulator (CFTR) is related to membrane bound glycoproteins which constitute a cAMP activated chloride channel and regulate other chloride and sodium channels

-both sodium and chloride are affected, primarily a defect in abnormal chloride movement- (CFTR) protein functions as the chloride channel

-decrease in pancreatic secretion of bicarbonate and chloride and an increase in sodium and chloride in saliva

-primary factor: mechanical obstruction caused by the increased viscosity of mucous gland secretions (thick mucoprotein that accumulates and dilates them) small passages in organs (pancreas and bronchioles) become obstructed as secretions precipitate/ coagulate to form concretions in glands and ducts

-Clinical features: increased viscosity of mucous gland secretions, striking elevation of sweat electrolytes, increase in several organic and enzymatic constituents of saliva, and abnormalities on autonomic nervous system function

To Be Completed Before the Simulation

Anticipated Patient Problem: ineffective airway clearance

Goal 1: pt will demonstrate effective airway clearing strategies such as productive coughing during my 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 coughing techniques q shift	Educate on splinting, using abdomen muscles, and cough/ deep breath technique
Assess HR, SpO2, lung sounds, RR, depth, and use of accessory muscles q4h	Encourage use of IS, administer O2, utilize room humidifier
Assess secretions: consistency, color, odor, and amount q6h	If hemoptysis, notify md and administer steroids as ordered
Assess physical abilities and activity tolerance q shift	Encourage rest periods and cluster ADLs/care
Assess nutrition and hydration status q shift	Encourage fluids and high cal/ fat diet
Assess general appearance and position when breathing q shift	Educate on optimal breathing positioning: upright / high fowlers or elbows on table in front of them leaned forward

Goal 2: pt will maintain normal respiratory rate and depth during my care.

To Be Completed Before the Simulation

Anticipated Patient Problem: risk for infection

Goal 1: Pt will maintain temp WNL (36-38 C) during my 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 for changes in sputum: color, consistency, and amount q4h	Notify md, obtain specimen for culture, administer expectorant
Assess temp and HR q4h	Administer antipyretic
Monitor WBC q shift	Administer antibiotic, utilize isolation precautions
Assess knowledge of cleaning respiratory equipment q shift	Educate on proper cleaning techniques
Assess for exposures q shift	Educate on avoiding crowds/ infected individuals
Monitor for SOB, N/V/D s qhift	Encourage fluids, elevate HOB

Goal 2: Pt will have negative sputum cultures during my care.

To Be Completed During the Simulation:

Actual Patient Problem: ineffective airway clearance
Goal: pt will demonstrate effective airway clearing strategies such as productive coughing during my care.
Met: ☐ Unmet:☐

Goal: pt will maintain normal respiratory rate and depth during my care. Met: ☐ Unmet:☐

Actual Patient Problem: readiness for enhanced learning
Goal: pt will verbalize understanding of medications and treatments of CF during my care.
Met: ☐ Unmet:☐
Goal: pt will verbalize understanding of risks and complications of CF during my care.
Met: ☐ Unmet:☐

Additional Patient Problems:

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	Day 1	Persistent cough, worsen when lay down	Day 1	Sweat chloride test ordered	Day 1	Pos test, dx with CF
1, 2	Day 2	Lung sounds: course crackles, stated "harder to breath when running"	Day 2	Educated (family and coach) on overview of CF, how thinker secretions may make activity harder.	Day 2	Verbalized understanding, coach stated "I will make a different warm up to accommodate her CF"
2	Day 3	Stated "Courtney is a picky eater, she's so skinny"	Day 3	Educated on high calorie/protein diet, and adding snacks between meals to meet needs	Day 3	Courtney made a list of foods she does and doesn't like so she can maintain her diet
2	Day 4	Stated "Creon is hard to take"	Day 4	Educated on sprinkling med onto applesauce	Day 4	Verbalized understanding, stated "I love applesauce that will be better"
1, 2	Day 5	Courtney told her school nurse about her dx	Day 5	Educated nurse on mucous clearing device and med dose	Day 5	Verbalized understanding
1, 2	Day 6	Courtney upset	Day 6	Educated on proper	Day 6	Stated "it takes so

		because she had to come home early for treatments		technique, importance, and frequency of percussion, vibration, and positional drainage		long, but we will do anything to make sure she's healthy"
2	Day 7	Mom raised concerns about additional health problems	Day 7	Educated on increased risk for osteoporosis, GERD, DM, and endocrine/growth problems	Day 7	Nodded, stated "these are very overwhelming"

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 chloride test

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

Signs and Symptoms

Persistent, productive cough worsens with laying down and exercise
SOB with exercise
Coarse crackles
Wheezes, hyperactive bowel sounds, loose frothy stools

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

Contributing Risk Factors

*Family history
*Race

Therapeutic Procedures

Non-surgical
*Active cycle breathing
Physical exercise
Surgical

*Ventilation/ intubation
*Lung transplant
*Feeding tube placement

NCLEX IV *(7)*: Reduction of Risk

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

Osteoporosis
GERD
DM
Growth problems

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

Medication Management

Pancrelipase: 3 capsules PO with meal, 1-2 PO with snack
Azithromycin: 5mg/kg/day PO
Dornase alfa: 2.5mg neb daily
Levalbuterol: 2.5mg neb 4x/day
Vitamin E, multivitamin

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

Non-Pharmacologic Care Measures

Respiratory chest physiotherapy
Mucus clearing device

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

Stressors the client experienced?

Playing softball got harder
Have to leave friend's house early for tx

Client/Family Education

Document 3 teaching topics specific for this client.

- medication compliance
- diet changes
- percussion, vibration, and positional drainage

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

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

Pulmonology, lab, home health, school nurse

Patient Resources

Home health
Support group (for child and parents)

***Not seem in scenario**

Reflection Paper

Directions: Write reflection including the following:

1. What was your biggest "take away" from participating in the care of this client?
   My biggest take away was even though in an appointment a family can get all the education they will need, a diagnosis can create stress and the family may need reeducation on almost everything. They may ask questions multiple times and still not understand because any diagnosis influence how people understand and perceive information. Being patient and continually educating a family is huge.

2. What was something that surprised you in the care of this patient?
   Something that surprised me in the care of this patient was how much she wanted to be involved. She wanted to listen to her own heart and lungs, asked her own questions, and wanted to learn things along with her parents. She also wanted to share her diagnosis with her friends and everyone at school which was surprising because I feel like kids would want to hide things like this.

3. What is something you would do differently with the care of this client?
   I don't know that there is much I would change in the care of this client because I feel like a lot of bases were covered. We started slow and only covered one topic per day, which helped with the understanding of each topic and allowed for questions to be adequately asked and answered. We included the child, as well as the school nurse and her coach ensuring she will be safe wherever she is. I think the only thing I would change is making sure Courtney knew the importance of her treatments earlier so she wouldn't feel bad about leaving her friend's house early, and she wouldn't want to ask to skip treatments.

4. How will this simulation experience impact your nursing practice?
   This simulation will impact my nursing practice because it allowed me to see a few important things. One being no matter how good your education is at during a diagnosis, the family and patient will probably not retain much so you should make sure to schedule follow ups. Another is making sure to not only include the family, but other caregivers so the child is always safe. Along with these, making sure to space out teaching so it isn't super overwhelming when a family gets a lot of info at once.

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

   In normal growth and development of a 10-year-old, they are always on the go playing sports and hanging out with friends which was depicted. They enjoy conversations and being a part of discussions and want to please their parents. Courtney is in the concrete operational developmental stage, which was shown by making rational judgements about experiences (knowing softball is harder for her but learning she is still able to play as long as she stays safe and acknowledges her own limits). She is in the industry vs inferiority crisis stage, which was shown by her being confident in learning about her new diagnosis and asking questions.