ATI Real Life Student Packet
N201 Nursing Care of Special Populations
2022

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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

- Exocrine glands secrete substances through ducts internally (glands in the lungs) or externally (sweat glands)
- Your airway is lined with a thin layer of mucus constantly
- Mucus secretions are normally slippery & thin
- Diffusion & osmosis allow cells to easily move salt & water
- Your lungs & immune system are able to recognize and fight off different illnesses like the common cold without there being any major issues or complications
- Cilia's job or main function is to move mucus and other contents forward
- Lungs should inflate & deflate easily with breathing thanks to surfactant (what prevents the lungs from collapsing) and with intact & functional alveoli (where gas exchange takes place)
- Nose: the mucus membranes in your nose should normally be thin, moist, free of polyps, and you should be able to inhale easily
- Sinuses: air filled spaces in your skull than are warm & humidify the air we breathe. They can also trap particles like dust or bacteria
- GI: Our stomach & intestines should normally be able to easily digest food & absorb nutrients. Peristalsis moves food throughout our GI tract. Mouth-esophagus-stomach-small intestine-large intestine-rectum-anus
- Our nails should normally be flat with minimal to no curvature

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

- Autosomal recessive genetic disorder (both parents must have the gene to pass it)
- Chromosome 7 is affected and causes a mutation of the gene for protein cystic fibrosis transmembrane conductance regulator (CFTR)
- Slowly progressive = can leave chronic lung damage
- This causes a decrease in the effectiveness of water & salt to freely move around
- Exocrine glands secretions (especially the ones the produce mucus) become abnormally thick & that can clog vital areas of the body which causes obstruction, inflammation/irritation, and over all cause a person to be highly at risk for infection
- Airway walls become dilated, alveoli in the lungs become inflamed, thick mucus blocks the airway which cause dysfunctional cilia.
- Bronchiectasis with a decreased surface area = a loss of lung function
- Blood could be present in mucus
- Bacterial infections can happen in a person's airways
- Other areas of the body affected:
- Sinuses: infection
- Skin: sweat glands will produce abnormally high chloride which will cause sweat to be very salty when secreted
- Liver: biliary ducts get blocked & portal hypertension develops
- Nose: nasal polyps can develop, congestion leading to pain, rhinorrhea, & a lost of taste/smell
- Intestines: decreased absorption
- Pancreas: pancreatic ducts get blocked
- Male & female reproductive organs experience complications
- Males could become sterilized related to impairment of their vas deferens
- Nails could become clubbed related to oxygenation problems
- You could develop arthritis or osteoporosis
- You could have over all general growth failure from the malabsorption, vitamin deficiencies (Vitamin A, D, E, K)

Anticipated Patient Problems, Goals, & Interventions Based on Medical Diagnosis

** This worksheet should be completed before you begin the ATI simulation.

Problem #1: Ineffective airway clearance

Patient Goals:

1. Lungs and airway will be clear of mucus/fluids/secretions with absence of lung crackles/wheezing and labored breathing during my time of care.
2. Oxygen saturation will be 93% or greater during my time of care.

Assessments:

- Assess oxygen saturation and heart rate q hr, PRN.
- Assess respiratory effort, rate, depth, consistency, use of accessory muscles, if there is a cough, and for any wheezing or crackles q 4 hr, PRN.

Interventions (In priority order):

1. Maintain oxygen therapy via nasal cannula or nonrebreather mask as ordered, PRN.
2. Utilized proper positioning in semi-fowler's position while in bed as tolerated, PRN.
3. Administer bronchodilator (like albuterol) as ordered.
4. Administer nebulizer treatments as ordered.
5. Encourage use of incentive spirometer hourly.
6. Teach importance of maintaining an oxygen saturation greater than or equal to 93% and how to monitor oxygen saturation when at home once a shift.

Problem #2: Risk for infection: Lungs

Patient Goals:

1. There will be no signs of an infection with a temperature between 36.5-37.5 degrees C, SBP between 100-120 with DBP between 60-80, HR between 60-100 bpm, and RR between 12-20 during my time of care.
2. WBC will be between 4,500-11,000/mcL and sputum C&S will not be positive for any infectious bacteria during my time of care.

Assessments:

- Monitor temperature, HR, BP, and RR q 3 hr. Assess lab values for any changes PRN.
- Assess sputum for amount, color, consistency, and odor PRN.

Interventions (In priority order):

1. Perform hand hygiene and practice aseptic technique at all times during my time of care.
2. Maintain/encourage adequate fluid intake and provided nutritious meals q 4 hr, PRN.
3. Assist with daily bath, personal hygiene, and oral hygiene twice a shift or as needed/requested.
4. Encourage to cough a deep breath every hour as tolerated.
5. Instruct all visitors to wash hands prior to entering the room and to wear a mask PRN.
6. Teach the importance of practicing hand hygiene and the hygiene of personal items throughout the environment once a shift.

To Be Completed During the Simulation

Nursing Notes

Time	*I or E*	Notes	Specify NDx #
0800	E	Received report of new pt. CS. 10-year-old F with new dx of CF, developed cough 3 weeks ago. Positive sweat test. Referred for CF education	1,4
0805	I	Contacted family	1,4
0810	E	Mother stated feeling anxious for visit and needing help understanding what CF is. Appointment is scheduled for tomorrow @ 1000	1,4
(Next day) 1000	I	Conducted health history	1, 4
1005	E	Mother informed CS was delivered 2 wks early, was breastfed for about a year. Birth wt: 6lbs 7oz. CS is known as a picky eater. “Doesn’t seem to want to eat much.”	1,2,4
1015	I	Asked about recent doctors visit	1
1016	E	Father described cough that would not go away and would worsen at night when SC laid down. Sweat test was positive. Stated “It was just a lot of information given very quickly”	2,4
1020	I	Offered to answer any questions, asked to conduct a physical assessment.	4
1021	E	Mother stated, “That’s a relief.” CS asked to listen to heart and lungs too	4,1
1030	E	CS cooperative, calm, eager, asking questions. Stated “heart sounded good.”	1,4
1035	I	Listened to lung sounds	1
1040	E	Coarse crackles in lungs. Stated “I cough a lot every day.” Also stated “Sometimes I find it hard to breathe when I have to run a lot.”	4
1045	I	Asked about CS not eating much and about softball.	1, 2,3,4
1050	E	Father stated, “She doesn’t hardly eat anything. You’ve seen how skinny	2,3

		she is. She likes cheese and crackers. And chocolate milk. I have a difficult time getting her to eat meat at all." Mother stated "Ever since she started playing, she's had a more difficulty breathing… I have tons of questions."	
1055	I	Made follow up appointment for tomorrow @ 1000	1
(Next day) 1000	E	CS, mother, and father all sitting on couch, calm, maintaining eye contact	1, 4
1005	I	Explained plan of care for this visit, told importance of not rushing learning	4
1010	E	Mother "I'm so confused." Explained feeling worried kids will treat CS differently if they know about her CF	4
1015	I	Informed the importance of the school RN being informed	4
1020	E	Mother and Father at agreement that CS should inform school RN and others about her health situation	4
1030	I	Explained the pathophysiology of CF	4
1035	E	CS stated, "Why is it so hard for me to breathe?"	1, 4
1040	I	Taught about thickened secreations. Stressed importance of medication and repiratiory treatment compliance. Provided handouts	1
1045	E	Next family concern is CS's diet. Accepted handouts	2
1055	I	Made follow up appointment	1
(Next day) 1100	E	CS tells school RN about CF and home health RN visits. School RN asked about any new medications. CS gave medications and medical forms. School RN makes a phone call	1,4
1115	I	On phone with school RN to discuss CF support groups and educate on mucus clearance device	1, 2
1120	E	School RN agrees with CS's plan of care r/t support groups	1
(Next app.) 1500	E	CS stated, "the Creon I take is so hard to swallow." Mother stated concerns about CS being skinny. CS stated, "I'm just not hungry."	2
1515	I	Taught to open Creon capsule and take with apple sauce. Taught CS needs a diet with high protein and high calories for growth and metabolism. Taught that SC should small, frequent meals throughout the day.	2, 4
1555	E	CS got a pen and paper to write down food preferences	2
(Next app.) 1500	E	Discussing respiratory medications. Mother stated, "I don't understand what these do."	4
1515	I	Taught about what CS's respiratory medications do and how they work	4
1530	E	CS stated sputum is "kind of yellowish" and is coughing even more	1
1535	I	Taught about percussion, vibration, and postural drainage therapy should be increased when CS is sick, up to 4 times a day. Explained that research shows those who stop their treatment have an increased risk for respiratory problems	1, 4, 2
1550	E	Mother stated, "We are going to do everything possible to make sure Courtney stays healthy."	1

(Next app.) 1700	E	Father concerned if CS can still play at this level and stay healthy. CS stated, “I got tired after running the bases.” Explained her coach has her run at practice and she coughs afterwards	4
1715	I	Taught family and coach that CS can still continue to be active as much as her pulmonary health allows her, taught importance of taking breaks and informing coach/parents about feeling tired	3, 4
1730	E	Coach agrees to modify warmups and to contact school RN for more information	1
(Next app.) 1600	E	SC not home, mom asked about other health concers r/t CF	4
1610	I	Taught about other health concerns like growth delay, diabetes, osteoporosis, and delayed puberty	1,2,3,4
1620	E	Mother states she’s overwhelmed with all the concerns. CS comes home asking if she has to do therapy today. Stated that friends don’t have to worry about it. Mother stated, “What do I say”	1,
(Next visit) 1500	E	No further questions from any family member	4
1530	I	Encouraged family to reach out with any questions or concerns. Provided information about CF support groups	1,4
1545	E	Mother stated, “We will definitely go.”	1

Initials/ Signature _JJ/J. Jordan_____

Actual Patient Problems & Goals

** This worksheet should be completed after you complete the ATI simulation.

Problem #1: Ineffective airway clearance

Patient Goals:

1. Lung and airway will be clear of mucus/fluids/secretions with absence of lung crackles/wheezing and labored breathing during my time of care. (unmet)
2. CS will participate in respiratory therapy treatment and use the mucus clearance device once a day (met)

Problem #2: Imbalance nutrition: less than body requirements

Patient Goals:

1. CS will eat 50% of breakfast, lunch, and dinner, by the end of the day. (unmet)
2. CS will keep a food diary/log with the foods that she does and does not like twice a day. (met)

Problem #3: Activity intolerance

Patient Goals:

1. CS’s RR will be below 22 breaths per minute during softball practice every hour. (met)
2. CS’s oxygen saturation will be greater than or equal to 93% during softball practice, q hr. (met)

Problem #4: Deficient knowledge: Cystic fibrosis, medications, treatments, activity, diet

Patient Goals:

1. CS will be able to explain what one of her medications do by the end of my care.
2. CS will be able to explain why cystic fibrosis causes difficulty breathing by the end of my care. (met)

Problem #5: _____

Patient Goals:

1. _____ Met ☐ Unmet ☐
2. _____ Met ☐ Unmet ☐

Patient Resources: Home health, cystic fibrosis support group for child and family

Patient Teaching: Importance of medication and respiratory treatment compliance

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
Positive chloride sweat test
Small for age but being overall healthy

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

Signs and Symptoms
Persistent cough worsening at night when laying down
Difficulty breathing
Productive cough
Small for age
Under weight
Loss of appetite
Increased coughing/dyspnea with exercise

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

Contributing Risk Factors

Genetic disorder
Caucasian

Therapeutic Procedures
Non-surgical
Mucus clearing device
Chest physiotherapy
Nebulizer
Surgical
N/A

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)
Immunization history
- Meningococcal, dtap, HIB, Hep B, varicella

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

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

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

Medication Management	Non-Pharmacologic Care Measures	Stressors the client experienced?
Pancrelipase Azithromycin Dornase alfa levalbuterol Vit E Multivitamin	Respiratory chest physiotherapy Mucus clearance device Support groups Continuing exercise	Comparing self to friends Unfamiliar with disease Parental concern about exercising causing coughing, daughter being treated differently Length of time chest physiotherapy takes Worries about daughter being under weight and having a lack of appetite

Client/Family Education **NCLEX I *(1)*: Safe and Effective Care Environment**

Document 3 teaching topics specific for this client.	Multidisciplinary Team Involvement (Which other disciplines were involved in caring for this client?)
• respiratory therapy treatments • diet, exercising, and medications that provide the best outcome for cystic fibrosis • what to do in case of an emergency, signs/symptoms of when they should seek urgent medical attention	- School nurse - Coach - Home health nurse - Primary care provider - Coach

Reflection Paper

Directions: Write a 1-page reflection paper for each patient using Times New Roman, 12 pt. font and double-spaced. Include the following:

1. Describe an “Aha” moment you experienced during this learning experience.
2. What were the most important aspects of this simulation and what did you learn?
3. How will this simulation experience impact your nursing practice

An “Aha” moment during this simulation experience was how optimistic and engaged Courtney was throughout the entire time. She was upset at one point when she had to come home from working with her friends to complete a respiratory therapy treatment, but who wouldn’t be upset leaving their friends to go home and do something you don’t really want to do? It was really great how her and the nurse interacted! Courtney felt comfortable enough to ask questions and ask to participate by listening to her own heart and lungs along with the nurse. Personally, I can be shy and not want to ask questions so building a relationship were Courtney and her family felt welcomed and comfortable to ask their own questions is amazing!

The most impactful aspect of this simulation experience was that patients with cystic fibrosis are people who can live a stereotypical “normal” life. I don’t personally know anyone with cystic fibrosis but if I do, I’d have no idea that they have it. I have only heard of cystic fibrosis or seen how it is portrayed on TV or movies but thanks to this simulation experience, I realized that it doesn’t have to be a limitation or a label for people to live with. My younger sister has diabetes and I remember growing up, my mom would always say “yes, it is annoying to have to always check your blood sugar or give yourself insulin shots or take a break when you don’t feel good, but it could be a lot worse.” I think that kind of applies to cystic fibrosis. People who have cystic fibrosis can still live a regular life just like my sister does with diabetes, they just have to make some modifications that can be annoying, but it is still manageable!

This simulation experience has impacted my nursing career by putting an emphasis on building a good relationship, not just with the patient, but with the family too. Family support is so important in health care and even more so when children are involved. Sometimes I feel dumb when I really am just not understanding something, and I have a million questions. In this simulation, it did not seem that the parents or Courtney felt dumb or bad asking questions and I hope that to my patients, they never feel that way with me. I also learned that the teach back method is really helpful rather than just repeating the same information the same way if it isn’t being understood. Being able to slow down and realize that patients are people too who have their own lives is critical in caring for patient holistically. Getting to know people on a personal level and not just through what their chart says will be more impactful than we will ever know I feel.