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

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ATI Scenario: PED 1: 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: air is inhaled/warmed/moistened via nose. Air moves from the oropharynx to the laryngopharynx. It then travels through the epiglottis to the larynx before moving into the trachea. The epiglottis is a small flap that closes during swallowing to prevent liquids from entering the lungs. Air then travels down the trachea, then bifurcates into the left and right mainstem bronchus, and into the bronchioles within the lungs. The bronchioles are encircled by smooth muscles that constrict and dilate in response to stimuli. Gas exchanges occurs with the capillaries of the alveoli with each breathe. Surfactant is a lipoprotein that coats the alveoli to prevent them from collapsing upon exhalation.
Pancreas: is a long slender gland that lies behind the stomach. The pancreas has exocrine and endocrine gland functions. It contributes to digestion through the production and release of enzymes. The pancreatic duct extends along the gland and enters the duodenum through the common bile duct at the ampulla of Vater.
Liver: located in right epigastric region. Performs many functions and is essential for life. It has metabolic, secretory, vascular and storage functions. The hepatic cells constantly make bile that provides the alkaline medium needed for the action of pancreatic lipase. The bile salts are needed for fat emulsification and digestion.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

-Cystic fibrosis is an autosomal recessive condition characterized by exocrine gland dysfunction and produces multisystem involvement, especially in the pulmonary and digestive systems.
-Main characteristics of CF: increased viscosity of mucous gland secretions, elevation of sweat electrolytes, increase in autonomic nervous system function, and abnormal chloride movement.
-Pulmonary affects: mechanical obstruction caused by a thick mucoprotein that accumulates, causing the bronchioles to become obstructed. Over time, stagnation of mucous will lead to bacterial colonization and eventual destruction of the lung tissue. The buildup of secretions will cause bronchiectasis, atelectasis, and hyperinflation. Recurrent infections will lead to progressive damage of the airways.
-Pancreatic/digestive affects: thick secretions lead to pancreatic fibrosis caused by cystic dilations of the acini. The blockage prevents the essential pancreatic enzymes from reaching the duodenum, causing impairment in the digestion and absorption of nutrients, especially fats and proteins. This results in steatorrhea (bulky, frothy, greasy stools) and azotorrhea.
-Liver involvement: focal biliary obstruction and fibrosis are common and will become more extensive with time. Leads to biliary cirrhosis and portal hypertension.

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. Pt will maintain a patent airway demonstrated by a RR between 10-20 and clear breath sounds bilaterally throughout my time of care.

2. Pt will demonstrate the proper use of a mucous flutter device by the end of my care.

Assessments:

- Assess RR, HR, and SpO2 q4h, auscultate lungs q4h, assess airway patency q2h, assess LOC q4h, assess cap refill q4h.

Interventions (In priority order):

1. Administer mucolytics per MD order during my shift.
2. Assist in chest physiotherapy session during my time of care.
3. Teach the proper use of a flutter device q4hr PRN increased mucous in airway.
4. Maintain position of semi fowlers during my time of care.
5. Teach cough and deep breathing techniques during my care.
6. Encourage ambulation of at least 100ft q4h during my care.

Problem #2: Imbalanced nutrition; less than body requirements

Patient Goals:

1. Pt will eat at least 75% of each meal tray throughout my time of care.

2. Pt will drink 100ml q2h during my time of care.

Assessments:

- Assess nutritional status qshift, assess mucus membranes q4h, assess skin turgor q4h, assess weight qshift, assess eating habits q4h, assess LOC q6h, assess I&O q4h.

Interventions (In priority order):

1. Encourage small, frequent meals throughout my time of care.
2. Administer a multivitamin per MD order during my care.
3. Encourage oral intake of at least 100ml of fluid q2h during my care.
4. Provide supplemental protein shake per MD order during my shift.
5. Educate on the importance of a high protein, low fat diet during my care.

6. Provide frequent oral hygiene during my time of care.

To Be Completed During the Simulation

Nursing Notes (hand write these)

I also have a hand written version of my PIE notes attached separately.

Time	*I or E*	Notes	Specify NDx #
3/121 000	E	10yr old female, small for her age (32kg). Mom reported taking her to doctor due to chronic	1,2,3,4
		cough that is worse when laying down. C/o of being a poor eater and has increased difficulty	
		Breathing while playing softball. Coarse crackles in all lobes bilat. Parents expressed feeling	
		Overwhelmed with new diagnosis. ---------- JR	
1020	I	Reassured family of feelings and scheduled next appointment for education. ---------- JR	4
3/13 1530	E	Dad expressed concern regarding whether to tell classmates/staff about cystic fibrosis -----JR	1,4
1600	I	Educated on importance of informing school nurse. Taught an overview of CF, provided	1,2,4
		Pamphlet and emphasized adhering to medication regimen. ---------- JR	
1630	E	Verbalized understanding. ---------- JR	1,2,4
3/17 1530	E	Verbalized difficulty taking Creon pill. ----------JR	2
1600	I	Educated on purpose of taking Creon prior to meals and mixing pill with applesauce if	2,4,5
		Needed. Explained dietary needs, need for small frequent meals throughout the day. ------ JR	
3/30 1530	E	Verbalized understanding. ---------- JR	2,4,5
	E	C/O worsened cough and yellow sputum. ---------- JR	1
	I	Educated on percussion, vibration, and postural drainage and to increase the frequency when	1
		Experiencing an increase in cough/mucous. Explained use/need for respiratory medications.	
	E	Verbalized understanding. ---------- JR	1
4/3 1530	E	Dad worried about activity levels and being able to keep up with softball. ---------- JR	3
1600	I	Educated that exercise is important for pulmonary hygiene. Encouraged continuing sports	1,3
		But to report when fatigued. ---------- JR	
1630	E	Verbalized understanding and softball coach said “I will modify warm up exercises for her”	3
4/7 1730	E	Asked about other health concerns for the future. ---------- JR	4
1740	I	Educated on Osteoporosis, GERD, DM, and delayed growth/puberty. ---------- JR	4
1745	E	Verbalized understanding. ---------- JR	4
4/12 1600	E	Asked about other resources that are available. ---------- JR	4
1630	I	Educated on community support groups, provided pamphlets, and home health number. - JR	4
1700	E	Verbalized understanding. ---------- JR	4

Initials/ Signature J. Rigby

SNB

Actual Patient Problems & Goals

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

Problem #1: Ineffective airway clearance

Patient Goals:

1. CS will maintain a patent airway demonstrated by a RR 10-20 and SpO2 > 95% during my care. Met ☐ Unmet ☐
2. CS will demonstrate the proper use of a mucous flutter device by the end my care. Met ☐ Unmet ☐

Problem #2: Imbalanced nutrition; less than body requirements

Patient Goals:

1. CS will eat 75% of each meal by the end of my care. Met ☐ Unmet ☐
2. CS will utilize the teach back technique to explain the importance of a high protein/calorie diet by the end of my care. Met ☐ Unmet ☐

Problem #3: Activity intolerance

Patient Goals:

1. CS will perform at least 30 minutes of exercise 3 times a week by the end of my care. Met ☐ Unmet ☐
2. CS will take frequent breaks during periods of activity throughout the day by end my care. Met ☐ Unmet ☐

Problem #4: Deficient knowledge

Patient Goals:

1. CS will verbalize the s/sx of a worsening respiratory status (increased cough/sputum) by end of care. Met ☐ Unmet ☐
2. CS will verbalize the importance of adhering to chest physiotherapy 4x a day by end of care. Met ☐ Unmet ☐

Problem #5: Risk for electrolyte imbalance

Patient Goals:

1. CS with drink at least 800ml of fluid per day during my time of care. Met ☐ Unmet ☐
2. CS will have a sodium (135-145mEq/L)and chloride (90-110mEq/L) level WNL by end of my care Met ☐ Unmet ☐

Patient Resources: Support groups, educational pamphlets, home health, respiratory therapy.

Patient Teaching: Diet, exercise expectations, medication regimen, importance of adhering to treatments.

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 (testing chloride and sodium levels in the sweat): result was positive

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

Signs and Symptoms
- Chronic cough that is worse when laying flat
- Productive cough with yellow sputum
- Coarse crackles in all lobes
- Increasing fatigue with activities
- SOB with activities (ex: softball)
- Hyperactive bowels with loose frothy stools multiple times per day
- Weight loss

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

Contributing Risk Factors
- Genetic: autosomal recessive disorder

Therapeutic Procedures
Non-surgical
-Percussion, vibration, and postural drainage
-mucous flutter device

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)
-Delayed growth and/or puberty
-Diabetes
-Gastroesophageal reflux disorder:
-Osteoporosis

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

Medication Management
-Pancrelipase
-Azithromycin
-Dornase alfa
-Levalbuterol
-Vitamin E
-Multivitamin

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

Non-Pharmacologic Care Measures
-Mucous flutter device and chest physiotherapy
-Exercise as tolerated
-High protein and calorie diet

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

Stressors the client experienced?
-Stress of not being able to keep up with her sports
-fear/anxiety of being different than her peers

Client/Family Education

Document 3 teaching topics specific for this client.
•Educated on use and how to properly take Pancrelipase (Creon) before meals.
•Educated on chest physiotherapy and when to implement it.

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

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)
Home health nurse, primary care provider, school nurse.

•Educated on exercise expectations and possible limitations.		

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?

I have typed my reflection on the next page.

An ‘Aha’ moment that I experienced during this simulation was when the parents expressed how overwhelmed they felt when they received the new diagnosis at the health clinic because the information was provided so quickly to them. It made me realize how easy it is to breeze through medical terminology and disease processes when you’re a health care worker, but it is a lot more difficult for those outside of healthcare to understand. It really emphasized the importance of taking your time when explaining a new diagnosis to the patient and family, while also leaving ample amount of time to allow the parents to ask clarifying questions. Some of the most important aspects from this simulation was emphasizing the importance of adhering to the new medication and treatment regimen, while also maintaining a sense of normalcy in Courtney’s life. The treatment plan for Cystic Fibrosis is extensive and at times can be very challenging, especially for a younger patient. Throughout the simulation, Courtney verbalized that her friends didn’t have to have respiratory treatments and that made her feel different. The nurse reinforced that it is important to continue to respiratory treatments in order to maintain adequate lung function, but she also referred back to softball a lot to make it relatable to Courtney. It can be challenging to feel different or left out due to a medical diagnosis, but it is also important to allow Courtney to maintain normal social interactions. Encouraging Courtney to continue playing softball allows her to have a sense of normalcy, interact with friends, while also improving pulmonary hygiene. Another important aspect of this simulation was including both the parents and the patient. When working with pediatrics, most of the medical information is directed to the parents but it is just as important to include the child in their care to increase compliance and eventual independence as the child gets older. Involving the school nurse and softball coach was also important because they will be able to monitor Courtney’s condition while she is at school or sports when the parents may not be able to be there. This simulation has impacted my nursing career because it has improved my communication skills, especially in regard to interacting with children. I will always involve the patient, family, and support systems in my care because it is my job to take a holistic approach. I will

provide my patients with resources within the community so that they can receive help or information when outside of a hospital setting. I will encourage all members to express their feelings and concerns, in hopes that I can address them throughout my teaching process. I will ask the parents or patient to restate my teaching to ensure understanding. Lastly, I will give time for the parents to ask any unanswered questions or receive additional clarification.