

Adult/Geriatric Critical Thinking Worksheet

Student Name: Caroline Dikes

Unit: S5

Pt. Initials: DH

Date: 12/15/2020

1. Disease Process & Brief Pathophysiology

The patient was admitted for respiratory failure and NSTEMI due to COPD. Chronic Obstructive Pulmonary Disease (COPD) is distinguished by the alveolar walls losing their integrity. Therefore, the surface area for gas exchange is substantially decreased. In addition, the lining of the airway passages begin filling up with or clogging with copious sputum. The combination of impairment at the cellular level with mechanical impairment in the airway creates a major concern for appropriate oxygenation and gas exchange sustainable to life. This can further lead to metabolic changes due to an imbalance in arterial blood gases.

4. Diagnostic Tests pertinent or confirming of diagnosis

Spirometry is used to diagnose COPD. It can also be referred to as pulmonary function testing. This test measures lung function and capacity. A chest x-ray can also be used for diagnosis, however COPD will not be visible until it is in its severe stages.

Arterial blood gas tests may also be used to differentiate between chronic bronchitis and emphysema patients.

In the case of genetic alpha-1 deficiency caused COPD, a blood test is used for diagnosis.

2. Factors for the Development of the Disease/Acute Illness

Modifiable risk factors:

Smoking (first and second hand exposure) (85-90% of cases) (P)

Exposure to pollutants

Frequent work around chemicals, dust, and fumes

Non-modifiable risk factor:

Genetic alpha-1 deficiency. This genetic condition impairs the ability of the body to produce Alpha-1 protein that protects the lungs

5. Lab Values that may be affected

Pulse oximetry is often low on room air and/or nasal cannula <95%

Arterial blood gas <7.35, >7.45

Hematocrit

women: > 35.5-44.9% men: >38.3-48.6

Hemoglobin

women: > 12.0-15.5 g/dL men: > 13.5- 17.5

3. Signs and Symptoms

Shortness of breath (P)

Cyanosis

Clubbing

Fatigue (P)

Wheezing

Excessive mucus production

Low oxygen saturation

Chronic cough

Activity intolerance (P)

6. Current Treatment

Smoking cessation (P)

Bronchodilators

Inhaled steroids

Oral steroids

Oxygen use (P)

Incentive spirometry (P)

Increase in activity

Clear airways by cough and increased hydration to thin secretions

7. Focused Nursing Diagnosis:

Impaired gas exchange

8. Related to (r/t):

Pathophysiology of COPD

9. As evidenced by (aeb):

Shortness of breath- need for supplemental oxygen via nasal cannula.

Fatigue- patient displays moments of fatigue after move from bed to chair and vice versa.

Activity intolerance and need for assistance for ambulation.

10. Desired patient outcome:

The patient will understand and teach back the importance of incentive spirometry use. He will demonstrate use once an hour during waking hours. 12/15/2020. 0946.

11. Nursing Interventions related to the Nursing Diagnosis in #7:

1 . Encourage incentive spirometry use.

Evidenced Based Practice:

Incentive spirometers provide a form of gentle exercise and improve ability to breathe. This exercise can aid in increasing lung capacity as well as keeping the alveoli inflated.

2. Encourage frequent turn, cough, and deep breathe maneuver.

Evidenced Based Practice:

This exercise aids in getting trapped air out of the lungs in COPD patients. This allows more fresh air with inspiration to rush into the lungs. The movement in turning promotes movement in the lungs.

3. Assist patient to chair to remain upright for sustained periods of at least an hour multiple times throughout the day.

Evidenced Based Practice:

Mobility increases lung function and encourages gas exchange rather than stagnation at the alveolar surfaces. Changes in positions promotes lung expansion and capacity.

12. Patient Teaching:

1. Teach patient the importance of continued usage of incentive spirometry for lung health.

2. Teach oxygen use safety.

3. Encourage frequent position changes when returning home for promotion of gas exchange and lung expansion.

13. Discharge Planning/Community Resources:

1. Increase visits with physical therapy to promote mobility and lung function.

2. Home or lifestyle modifications to avoid further exposure to pollutants or noxious gases.

3. Evaluate need for home oxygen/portable oxygen.

Resources

COPD. (2020, April 15). Retrieved December 18, 2020, from <https://www.mayoclinic.org/diseases-conditions/copd/diagnosis-treatment/drc-20353685>

Lancastre, J. (2017, February 13). Arterial Blood Gas (ABG) Test. Retrieved December 18, 2020, from <https://copdnewstoday.com/copd-diagnosis-and-tests/arterial-blood-gas/>

What Causes COPD. (n.d.). Retrieved December 18, 2020, from <https://www.lung.org/lung-health-diseases/lung-disease-lookup/copd/what-causes-copd>