Case Study #3 Ms. Bloomfield

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Causes/Risk Factors/Incidences

Chronic obstructive pulmonary disease (COPD) is a respiratory condition that affects many people in the world. Just in the United States, 16 million adults are known to have COPD and it usually causes over 120,000 deaths every year (Lewis et al., 2020, pp. 560). Many individuals suffer and possibly encounter an early mortality from this chronic respiratory disease later in their lives. COPD also includes various causes and risk factors. It is typically more common in men than women, individuals that smoke cigarettes, people with infections, asthma, living or working in air polluted areas, occupational chemicals and dusts, aging, and possibly genetics (Lewis et al., 2020, pp. 560-561). These causes and risk factors are associated with COPD patients and can lead to its respiratory symptoms. Additionally, those with an Alpha-1 Antitrypsin deficiency (AATD) can suffer from this respiratory disease. It is a disorder that causes the liver to stop producing a protective tissue protein known as alpha-1 antitrypsin (Lewis et al., 2020, pp. 561). Therefore, it withholds infectious or autoimmune protection from lung tissues, allowing for destruction to occur in the respiratory system. Many individuals can suffer from COPD because of its unmodifiable/modifiable risk factors and causes.

Impact on Patient

This patient has been diagnosed with early mild COPD. The patient's complaints have been primarily centered around hobby impairment. During exercise at the gym, the patient has revealed feeling shortness of breath making it difficult to perform physical routines. This has had a negative impact on the client's physical performance. Another complaint is a mild and occasionally productive cough. The patient is unaware of how to live with a productive cough caused by COPD. The patient is also an amateur astronomer and enjoys viewing the night sky in

the country. However, wildfires typically occur in those areas of preferred astronomical viewing. This can often, as the patient has described, worsen the coughing symptoms. Additionally, the client's FEV1/FVC was at 65%. This makes it difficult for air to be expelled or expired from the lungs. Therefore, the patient cannot force out air from the lungs as proficiently as other healthy individuals.

Impact on Family

COPD can have a surprising impact on an individual's family. Since people with COPD can become easily exhausted and short of breath, certain family related physical activities such as sports, hiking, and swimming can impair household relations. The family would have to consider alternative methods of fun as to not worsen or exacerbate the client's COPD symptoms. The client would also have difficulty eating at large family meal gatherings such as thanksgiving, birthday parties, and wedding receptions. Eating large and lasting amounts of food at these types of gatherings can increase the likelihood of dyspnea and tire out COPD patients. Therefore, it can be difficult for the family to provide proper amounts of food at appropriate time-intervals for the health of the COPD patient. The family would also be impacted by having to consistently monitor the patient's breathing ability. This could cause care-giver strain and stress on those close to providing care for the client. Proper activities, meal planning, and monitoring of patients with COPD can lead to difficult challenges, stress, and anxiety for these families.

Controlling Disease Factors

The patient's home and social environment can play a large role in the development of the COPD diagnosis. The patient stated an enjoyment of taking astrological related pictures in the country at night where wildfires are nearby. The long-term exposure of the smoke from the wildfires could have possibly been a suitable developmental factor in the patient's COPD

diagnosis. The patient also claimed to have started smoking at the age of 18 years old. It is possible there was an individual in the patient's life who introduced or influenced the act of smoking at the time of that young age. Therefore, the person responsible for the introduction of the patient's smoking habit could have led to the long-term use of cigarettes. Additionally, it is possible for the patient's career occupation to have contributed to the development of this disease. If the client's work environment involves air pollution, secondhand smoke, dust, harmful fumes, and chemicals, then it could have possibly increased the risk for causation of COPD. Long-term exposure to wildfires, cigarette influencing individuals, and work environment could lead to the development of the client's COPD symptoms.

Goal #1: Promotion Activities

There are many different methods to reduce and slow the onset of COPD. Physical activity has been known to reduce the onset of early COPD symptoms, as it worsens over time, through the means of aerobic fitness (Ambrosino & Bertella, 2018). This means that with aerobic activities, a patient's respiratory system can become stronger and the slow the symptoms of COPD. Since Ms. Bloomfield enjoys exercising at the gym, including a more aerobic based routine into physical activity could prove to be beneficial. Another method of COPD prevention is avoiding environmental hazards. Air quality, indoor or outdoor can worsen the symptoms of COPD (Ambrosino & Bertella, 2018). This means cleaner fluids, heaters, traffic-related, or natural fires can exacerbate COPD symptoms if not avoided. Since Ms. Bloomfield enjoys searching for astronomical photos in locations that include wildfires, it could be beneficial if the locations were confined to places without having to breath in the harmful smoke. This would allow Ms. Bloomfield to be free from the outdoor smoke. The most important method of COPD prevention is most likely to be smoking cessation. Smoking tobacco caused 8.3 million COPD

related deaths and exacerbated symptoms in the year of 2030 (Ambrosino & Bertella, 2018). This means if a patient stops smoking cigarettes, it can dramatically improve health. Therefore, since Ms. Bloomfield is more willing to stop smoking at this point and time, the possibility of decreasing COPD symptoms becomes more likely.

Goal #2: Acute Management

When Ms. Bloomfield has an acute episode of COPD, there are multiple methods of treatment that can be used to manage the symptoms. Self-administration of bronchodilators, corticosteroids, and personal oxygen therapy or non-invasive mechanical ventilation (NIMV) are treatment methods the patient can use for acute episodes (Crisafulli et al., 2018). Bronchodilators are used for acute episodes of COPD to help open the airways of the patient. Then the patient should use a corticosteroid to decrease the inflammation in the airways. Lastly, the patient should have access to a personal oxygen assistive device to increase the levels of ventilated O2 in the blood. Additionally, pursed-lip breathing should also be taught to the patient to increase exhalation, avoid bronchiole collapse, and air trapping (Lewis et al., 2020, pp. 570). This technique of pursed lip breathing will allow the patient to breathe more effectively and comfortably. If Ms. Bloomfield executes these treatments during acute episodes of COPD, then management of this disease should become easier to maintain.

Goal #3: Treatment Options & Teaching Tools

There are many different treatment options that Ms. Bloomfield can use to manage and treat COPD. Nutritional therapy is a proven method of treatment for these types of patients. Ms. Bloomfield should be taught that multiple (5-6) small high-calorie meals throughout the day can offer the best source of nutrients and cause less fatigue for this condition (Lewis et al., 2020, pp. 572). This will help prevent excess tiredness and allow Ms. Bloomfield to have enough energy

for exercise. Since Ms. Bloomfield enjoys observing the night sky under polluted air conditions and well as exercising, instructing the use of long-acting beta agonist (LABA) medications such as salmeterol or formoterol can be helpful in the onset prevention of COPD symptoms (Crisafulli et al., 2018). This will allow the patient to retain the enjoyment of the astronomical hobby and physical benefits of exercise without feeling restrained by COPD symptoms. Another important teaching point should be centered around the use of bronchodilators before eating. The nurse should teach the patient to use the bronchodilator and rest at least 30 minutes before consuming a meal (Lewis et al., 2020, pp. 572). This will reduce dyspnea, fatigue, and eating impairment for this patient. Additionally, since Ms. Bloomfield enjoys exercising, it is necessary to teach about avoiding physical activities for at least 1 hour before and after eating (Lewis et al., 2020, pp. 572). This will reduce dyspnea, fatigue, and tiredness for the patient. Lastly, Ms. Bloomfield is concerned about the productive cough that has developed since the diagnosis. Utilizing the huff coughing technique can assist the patient with effectively clearing excess secretions in the airways (Lewis et al., 2020, pp. 571). This technique will allow Ms. Bloomfield to breath more effectively and comfortably. If Ms. Bloomfield takes these interventions into consideration, the COPD symptoms could be much easier to maintain and sustain normal life.

References

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