

Puffers and Bloaters: An Analysis of COPD and Other Chronic Diseases

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Abstract

This paper will identify both current and potential health problems created by chronic diseases. It will address the financial impact chronic diseases have on society as well as the healthcare profession as a whole. The top chronic diseases that impact society will be noted. Chronic obstructive pulmonary disease will be discussed in detail. Current statistics will be presented on the problem, as well as the pathophysiology of the disease. The treatment options and the prognosis of chronic obstructive pulmonary disease will also be considered. The financial impact of the disease on the family and the healthcare profession will be evaluated, along with the quality of life for the patient and his or her family, as well as the community. The role the professional nurse plays in eradicating, preventing, or caring for this disease will be examined. Health promotion is also equally as important and will be discussed accordingly.

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Americans are presented with choices every day where their decision will ultimately end up dictating how their lives will be lived. Some of these decisions include the types of food they eat, the amount of exercise they perform, and the risky behaviors, such as smoking or drinking, that they choose to engage in. Chronic diseases can result from a lack or excess of the aforementioned decisions. These diseases are lifelong and affect not only the individual, but also the family, the community, and the country. Chronic diseases, according to the Center for Disease Control, are the most “common, costly, and preventable of all health problems” (2014, Chronic disease). Common chronic diseases include heart disease, cancer, human immunodeficiency virus, diabetes, stroke, and chronic obstructive pulmonary disease. In 2011, chronic obstructive pulmonary disease (COPD) affected approximately fifteen million Americans; many people are not even aware that they have COPD, so the actual number affected is most likely higher than estimated (2015, Chronic obstructive).

There are several problems that are associated with chronic diseases; one of these problems is the financial strain they put on the patient, family, and society, as well as the healthcare profession. People who have chronic diseases require more medical attention and treatment than others. The treatment of COPD, for example, requires careful and thorough treatment by physicians. Patients are also often hospitalized during exacerbations of the disease (2015, Chronic obstructive). The patients who are receiving their healthcare insurance from Medicare and Medicaid are putting a strain on national and state finances because Medicare and Medicaid are government funded. There is also an increased demand for healthcare workers, which is beneficial to those looking for a job, but can also result in the burnout of current employees and the exhaustion of other resources. The instances of COPD are steadily increasing;

therefore, the financial strain of this disease on the country is steadily increasing (2015, Respiratory).

Understanding the pathophysiology of COPD, the treatment available, and the impact of the disease on everyone involved is vital for those living with the disease. Nurses also play a major role in the health promotion and wellness of COPD and the aforementioned chronic diseases. Women are more susceptible to developing the disease at a younger age than men, despite the statistics that say that more men are smokers. It is important to note that there are two types of COPD: Emphysema and chronic bronchitis. “Emphysema is characterized by a loss of lung elasticity and abnormal enlargement of the air spaces distal to the terminal bronchioles, with destruction of the alveolar walls and capillary beds” (2015, Porth, p. 578). Smoking is the main cause of emphysema, but there is also a genetic component that can cause emphysema. This genetic factor is an inherited deficiency of α_1 -antitrypsin, an enzyme that protects the lung from injury and occurs in approximately 1% of the COPD population; the deficiency of this enzyme causes the lung to be more susceptible to lung injuries (2015, Porth, p. 578).

Chronic bronchitis, on the other hand, is an airway obstruction in the major and smaller airways. It is seen mostly in middle-aged men. The main cause of chronic bronchitis is smoking and recurrent infections. For a patient to be diagnosed with chronic bronchitis, the person has to have had a productive cough for at least three consecutive months for at least two consecutive years (2015, Porth, p. 580). The early manifestation of chronic bronchitis is the “hypersecretion of mucus in the large airways” (2015, Porth, p. 580). There are also changes in the small airways that act as an airway obstruction. Viral and bacterial infections may accompany chronic bronchitis as well, but are not considered to be the cause of the disease (2015, Porth, p. 580).

Though COPD manifestations usually include an excessive cough and shortness of breath, people usually do not seek treatment for COPD until their fifth or sixth decade of life. The patient experiences shortness of breath, sometimes without even performing activity, because of the obstruction of the airway. It is said that patients experience air hunger, which means that they do not feel they are getting enough air. Their breathing becomes extremely labored, even when resting, and the patients may often be found in the tripod position, using their accessory muscles to breathe. Severe hypoxemia occurs when PO_2 levels fall below 55 mm Hg, and it usually occurs in chronic bronchitis. During the later stages of COPD, the patient usually has recurrent respiratory infections and chronic respiratory failure. COPD is a lifelong disease and is incurable. Death usually occurs after the patient acquires an infection or experiences respiratory failure on top of an exacerbation of the COPD (2015, Porth, p. 580).

Patients with COPD are taught to use pursed-lip breathing to enhance the airflow because it allows the airway resistance to be decreased. It also helps prevent a collapse of the airway because it increases the air pressure in the lungs. Exacerbations occur more frequently as the disease progresses; during the exacerbations, the patient often exhibits dyspnea, fatigue, and an increase in sputum and coughing. The breathing patterns differ in chronic bronchitis and emphysema. Patients with emphysema are called pink puffers, which is when they utilize the pursed-lip breathing and accessory muscles. Because the lungs lose their elasticity and hyper-inflate, the airways often collapse when the patient breathes out because of the pressure difference, but they do not experience cyanosis. Patients with chronic bronchitis are considered blue bloaters because they experience cyanosis and fluid retention (2015, Porth, p. 581).

Diagnosis occurs after a physical examination, pulmonary function tests, laboratory testing, and radiographs. Doctors also look at the patient's exercise tolerance, nutritional status,

arterial gases, and the overall impact that COPD is having on the patient to determine the course of treatment. The treatment also depends on the stage that the person is in of the disease. Patients are told to cease smoking to slow the progression of the disease. To reduce hospitalizations, some patients are encouraged to go to a pulmonary rehabilitation program to learn the aforementioned breathing techniques, as well as others to help improve the functioning of their lungs, thus improving the gas exchange. Patients are also advised to stay away from people who have any kind of respiratory infection, such as the flu or pneumonia. Doctors often prescribe bronchodilators to patients that are to be used every day, rather than on an as-needed basis. Oxygen therapy is useful for some patients if they are experiencing significant hypoxemia. The goal of this therapy is to increase their oxygen saturation level to that above ninety percent (2015, Porth, p. 582).

There are many adaptations that patients must make to their lifestyle if they have a chronic disease, with COPD being no exception. According to Prakash and colleagues, “Morbidities due to COPD affect all aspects of life, including work and home life, physical and sexual aspects of marriage, internal emotional factors and dependence needs” (Prakash, Puri, Kumar, Malik, & Behara, 2014, p. 278). Once patients reach the later stages of COPD, they become limited with what daily activities they can do by themselves. This is going to create a caregiver role strain, be it a family member or healthcare professional; this will increase the time that the nurse will need to spend with this patient during her shift, thus possibly creating a barrier between her and her other patients.

The patient and his or her family may also struggle financially with the medical bills and prescriptions. Depending on the healthcare insurance provider and the age of the person—which would either qualify or not qualify the patient for possible Medicare—they may have little to no

coverage on their medical expenses. This puts a strain on individuals who, because of this, may not seek or comply with the type of treatment they need to best combat their disease. Even if they do receive treatment that best battles their stage of the disease, they are still not going to be completely resolved of their symptoms. It is noted that COPD “has a substantial impact on quality of life, impairing not only physical, but also psychological and social functions” (Prakash et. al, 2014, p. 275). It is for this reason the nurse needs to be vigilant in her care of this patient; behavior and mood changes need to be detected early so that an intervention can be done to resolve them if they interfere with the patient’s quality of life. Most patients are also taught modifications they can make in their lives to help them better cope with their disease, but it is still always up to the nurse to ensure that the patients are coping adequately and are not suffering from ineffective coping.

Aside from caring for the patients at the bedside with their activities of daily living and coping skills, the nurse plays a pivotal role in the prevention and treatment of COPD. A professional nurse can educate patients at a younger age of the dangers of using tobacco. She should explain the long-term, detrimental effects that smoking can have on the lungs, as well as other systems in the body. Because the heart and lungs work so closely together, the nurse should also stress to the patients at risk for or currently suffering from COPD that the impairment of their lungs could have a long-term effect on their heart. Nurses should also strive to encourage patients to be compliant with their medications and treatment to help reduce or prevent their exacerbations. The nurse should also closely monitor the patient’s oxygen saturation levels while he or she is in the hospital and should administer oxygen if directed or as needed. Many patients with COPD cannot lie completely flat, so the nurse may have to give the patients more pillows

and make sure that they maintain a semi-fowler's position or higher to ensure adequate lung expansion.

Promoting health and teaching preventative measures are both important tasks that the professional nurse is assigned. According to Benzies and McNeil (2012), chronic disease prevention begins in early childhood. Professional nurses are encouraged to educate parents about the importance of "positive parent-child relationships" to help promote health, prevent disease, and build "the foundation for a healthy population" (Benzies & McNeil, 2012, p. 15). Nurses should work together to educate patients and their families of the importance of health maintenance (2014, Heart). Nurses can help patients choose healthier foods and can encourage patients to establish an exercise regimen; both of these have proven to reduce the occurrence of chronic diseases. The nurse can also work with the patient to identify any risky behaviors that the patient is currently participating in that could cause an alteration in health (2014, Heart).

Chronic diseases are a growing community and national concern. They have proven to be a financial burden not only to the patient, but also the patient's family as well as the community. The role of nurses is crucial with patients suffering from chronic diseases. They are there to educate them, assist them as needed, and advocate for them so that they receive the best care tailored to their condition. Chronic obstructive pulmonary disease, the fourth leading cause of death in the United States, is one of several chronic diseases that is currently affecting Americans. It is not fully reversible, so these patients usually seek healthcare for it throughout the course of their lives (2015, Respiratory). Knowing the pathophysiology of COPD, the treatment, and the ultimate outcome can enable patients to have better care which will allow a higher quality of life for them; through health promotion, nurses are also able to communicate preventative techniques to counteract the contraction of COPD and other chronic diseases.

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