

Best-Practice Nursing Care for Patients with Chronic Obstructive Pulmonary Disease

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Abstract

According to a systematic review written by Eric Kleeerup (2007) on Chronic Obstructive Pulmonary Disease (COPD), approximately 3.2 million Americans aged 65 and older have COPD. COPD is a chronic disease characterized by chest tightness, shortness of breath on exertion, and a productive cough (National Institute of Health [NIH], 2011). The disease is managed through a variety of interventions, such as: smoking cessation programs, pharmacological management, and oxygen therapy (Nazir & Erbland, 2009). While the most common cause related to the development of COPD is smoking, other risk factors include exposure to tobacco smoke, occupational exposure to dusts and chemicals, age, and genetics (NIH, 2011). Nurses play a large role in the management of COPD, including: aiding in the management of symptoms, providing education and support concerning the disease, and carrying out orders made by a prescriber (Scullion & Holmes, 2011). As far as medical care of patients with COPD, lung volume reduction surgery and lung transplants are both treatment options (American Lung Association, 2012). Specific recommendations for COPD include offering smoking cessation to each patient diagnosed with the disease, use of pharmacological measures combined with oxygen therapy to manage exacerbations, and the implementation of a pulmonary rehabilitation program (Healthy People, 2012; Global Initiative for Chronic Obstructive Pulmonary Disease, 2011).

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Literature Review

Description of Condition/Disease

Chronic obstructive pulmonary disease (COPD) is a chronic, progressive condition of the lower airways that causes difficulty breathing over a period of time. COPD includes three primary conditions: emphysema, chronic obstructive bronchitis, and asthma. Of the three conditions, emphysema and chronic bronchitis commonly occur in conjunction with one another. The symptoms differ within these variations, with emphysema symptoms consisting of wheezing and shortness of breath, while chronic obstructive bronchitis symptoms include a persistent, mucus-producing cough. On the other hand, COPD manifests in many patients as chest tightness, shortness of breath on exertion, and a productive cough. In COPD, the alveoli (hollow sacs where gas exchange takes place in the lungs) lose their elasticity, become damaged, and the airways may become inflamed as a result. Moreover, the increase in mucus production associated with the disorder causes an obstruction in the airways, furthering the lack of oxygen available to the lungs and body. Consequently, dizziness and pallor may also occur in patients with COPD due to a lack of oxygen in the blood, which is known as hypoxemia (NIH, 2011).

While COPD and its accompanying symptoms are not reversible, the disease can be managed through various treatment regimens. Treatment for COPD includes (but is not limited to): smoking cessation programs, pharmacological management, and oxygen therapy. Of the listed management options, smoking cessation proves to be the most effective intervention because it actually slows the destruction of lung function. Smoking cessation essentially decreases mortality rates and may increase life expectancy by up to 4 years. This is especially true in patients 65 years and older, the target population for COPD. In addition to smoking

cessation programs, the other available options simply provide amelioration of symptoms as well as tolerance of the disease (Nazir & Erbland, 2009).

Etiology/Risk Factors

Risk factors for the development of COPD involve: exposure to tobacco smoke, occupational exposure to dusts and chemicals, age, and genetics. The most common cause of COPD is smoking, although exposure to irritants such as chemical fumes and air pollutants may also be considered risk factors in the development of the disease. As ingested air mixes with smoke or pollutants, the lungs' ability to take in adequate amounts of oxygen decreases substantially (NIH, 2011). Long-term cigarette smoking is the most compelling risk factor associated with COPD, with more packs over a longer amount of time yielding a higher risk for the development of the condition. People exposed to second-hand smoke or marijuana smoke are also at risk. Also, most individuals with COPD are at least 40 years old once symptoms start, as COPD progresses slowly over years. Finally, genetics play a role in the etiology of COPD. More specifically, a few cases of COPD have been attributed to an alpha-1-antitrypsin deficiency, a rare genetic disorder (Mayo Foundation for Medical Education and Research).

Medical Care

Regarding the management of COPD, medical care constitutes very specific roles from medical providers. For example, surgical remedies may be an option for a patient diagnosed with a severe form of COPD in which breathing is limited at all times. Two types of surgery are used for patients with severe breathing problems: Lung Volume Reduction Surgery (LVRS) and lung transplants. In LVRS, the main goal is to improve quality of life for patients with severe symptoms of COPD. The surgery reduces the size of the damaged lungs by 20-30% so that the healthy areas of the lung can compensate for breathing. This surgery serves to treat the disease

and help improve breathing as well as quality of life. Also, lung transplants are used as a last resort option for COPD patients. Lung transplants are indicated when the lungs have completely failed and can no longer transport oxygen and carbon monoxide. As such, this treatment is used for extremely severe cases of COPD in which the lungs have sustained irreversible damage. Both of the aforementioned surgical treatments for COPD cannot be performed on just any patient with COPD. According to the American Lung Association, the patient must be a non-smoker, strong enough to have the surgery, participate in a pulmonary rehab program, or have localized damage for LVRS (American Lung Association, 2012). In addition to surgical options, medical care encompasses the administration of pulmonary function tests (which serve as a diagnostic tool), referral to smoking cessation programs, and rehabilitation to prevent exacerbations (Global Initiative for Chronic Obstructive Pulmonary Disease, 2011).

Nursing Care

In addition to medical care, nurses also have a specific role in the care of patients with COPD. This role mostly includes helping the patient manage symptoms, providing education and support concerning the disease, and carrying out orders made by the prescriber. Nurses have the capacity to carry out two types of actions, dependent and independent actions. The nurse can carry out orders made by another health care provider such as a physician (a dependent action), or the nurse can perform tasks that do not need an order (an independent action) based on the status of the patient (Scullion & Holmes, 2011).

Although dependent nursing actions are initiated through another healthcare provider, they are still considered significant in the care of patients with COPD. For example, if a breathing treatment is prescribed for a patient with COPD, the nurse will validate that the respiratory therapist gives the treatment at the correct time. Concerning medications (including

oxygen therapy), the nurse will follow the order by administering the medication after checking the five rights of medication administration in order to ensure the order is followed both correctly and safely. If any order seems incorrect or potentially dangerous, it is the nurse's responsibility to clarify the order with the prescriber (Scullion & Holmes, 2011).

As mentioned previously, there are certain tasks that the nurse can perform that do not require an order. Examples of these include providing humidification to an oxygen delivery apparatus. Also, the nurse has the authority to provide proper oral hygiene in the hope of reducing infections, especially the fungal infections, associated with inhaled corticosteroids. Another independent nursing action is pulmonary toileting. It is especially crucial that patients with abnormal lung function, such as those with COPD, are encouraged to cough and deep breathe so that secretions do not settle in the lungs and cause infections such as pneumonia. In addition to pulmonary toileting, the nurse can perform chest physiotherapy to loosen secretions in order to facilitate productive coughing. Likewise, the patient should be encouraged to drink an adequate amount of fluids so that thick secretions can be loosened more easily. In addition to fluids, COPD patients should adhere to a high calorie diet to reduce the risk malnutrition. Lastly, during hospitalization, the patient's oxygen saturation should be monitored and kept within an acceptable range. If the patient is on oxygen by nasal cannula, moisturizers can be applied to the nose and behind the ears to reduce skin breakdown (Scullion & Holmes, 2011).

Patient education is a vital component in the treatment of patients with COPD, as only so much care can be given when the patient is under a nurse's care. The nurse is expected to provide direction regarding the correct way to use inhalers and incentive spirometers. After the teaching session, the nurse should verify the patient's understanding by having the patient demonstrate how to effectively use the inhaler or spirometer. Additionally, the importance

regarding continued medication and rehabilitation compliance should be stressed to the patient. The nurse needs to take great care to discuss the potential side effects and risks associated with the patient's medications so that the patient knows which adverse symptoms to report to the prescriber. Furthermore, nurses can train a patient with COPD to partially alleviate breathing difficulties through various breathing exercises. For instance, pursed lip breathing, a breathing exercise in which the patient controls the speed of his or her exhalation, should be demonstrated in the event that the patient exercises or experiences dyspnea (difficulty breathing). Dyspnea, a classic manifestation of COPD, has the potential to cause anxiety among patients. As such, nurses have a responsibility to limit the anxiety experienced by the patient. Anxiety reducing measures, such as relaxation and deep breathing, can be taught to the patient in order to relieve the anxiety associated with the disease. Finally, mobility (both inside and outside the hospital) should be encouraged as this can help provide exercise, thereby strengthening the lungs, while also mobilizing secretions so that they can be coughed up with greater ease (Scullion & Holmes, 2011).

As a nurse, it is of the utmost importance to foster a therapeutic relationship with the patient in order to help him or her cope with this progressive disease. The nurse should encourage the patient to take a proactive approach in regards to his or her care while also helping the patient cope with the subsequent impact on his or her activities of daily living as a result of COPD. As a nurse, it is crucial to paint a realistic picture of how the patient's life will be changed as well as the importance of understanding the prognosis associated with COPD. Also, the nurse needs to assess the patient's psychosocial needs, such as his or her support system and self-esteem, since minimum support and self-esteem can lead to isolation. Lastly, if the need arises, a therapeutic relationship can involve the discussion end of life care. The nurse should

refer the patient to the appropriate resources as well as provide information and support to both the patient and family concerning end of life care (Scullion & Holmes, 2011).

Healthy People 2020 Clinical Recommendations

Healthy People, a federal organization under the U.S. Department of Health and Human services, is responsible for procuring an agenda consisting of 10-year national objectives for improving the overall health of all Americans. In regard to COPD, Healthy People 2020 encourages the reduction of: activity limitations, deaths, hospitalizations, and hospital emergency department visits in individuals with COPD, as well as a decrease in the proportion of adults with undiagnosed abnormal lung function (Healthy People, 2012).

Other Practice Guidelines or Recommendations

As smoking is the most significant risk factor associated with COPD, Healthy People's recommendations related to smoking cessation should be examined. The U.S. Preventive Services Task Force (USPSTF) recommends that every healthcare provider asks all adults about tobacco use and provides subsequent tobacco cessation education for those who use tobacco products. The USPSTF also encourages clinicians to ask all pregnant women about tobacco use and provide augmented, pregnancy-tailored counseling for those who do smoke (Healthy People, 2012).

Furthermore, the GOLD report gives more recommendations pertaining to COPD. In addition to the previously covered medical care, the GOLD report lists specific pharmacological interventions such as corticosteroids, methylxanthines, and bronchodilators for COPD management. Influenza and pneumococcal polysaccharide vaccines are also advised for COPD patients in order to reduce illnesses and exacerbations. For non-pharmacological recommendations, the writers of the GOLD report present pulmonary rehabilitation programs

that tackle certain issues not addressed often in medical care, such as: “exercise de-conditioning, relative social isolation, altered mood states (especially depression), muscle wasting, and weight loss” (Global Initiative for Chronic Obstructive Pulmonary Disease, 2011, p. 26). For more successful management of COPD, oxygen therapy is also recommended for COPD patients (Global Initiative for Chronic Obstructive Pulmonary Disease, 2011).

As evidenced by the multitude of recommendations formulated for the disease, COPD is a highly researched and prominent disease. There is an abundance of information concerning COPD through organizations that focus on achieving improved treatment and awareness for COPD, such as: the American Lung Association, Global Initiative for Chronic Obstructive Lung Disease, as well as Healthy People 2020. Due to the attention and significance placed on the disease, a great deal of research has been performed, leaving few areas of continued concerns. However, one area of interest that could be explored in the future includes more successful smoking cessation programs. Researchers have adequately researched and provided pharmacological cessation methods that can be utilized by smokers with COPD, but many continue to smoke even as COPD progressively deteriorates lung function and the quality of life of these individuals (Nazir & Erbland, 2009). More research on motivational coaching or psychological cessation methods may help smokers with COPD who have tried to quit previously through pharmacological methods and have been unsuccessful due self-motivation issues. A new approach that targets the root of the problem, behavior, has the potential to help COPD patients stop smoking, thus stopping the progression of the disease.

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