Nursing Assessment and Management of Dyspneic Patients With Lung Cancer

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According to the American Thoracic Society (1999), dyspnea is characterized as the subjective experience of breathing discomfort that consists of qualitatively distinct sensations that vary in intensity. Dyspnea is difficult to define because it is a subjective sensation of breathlessness that occurs when the body’s need for ventilation exceeds its ability to meet the need (Foote, Sexton, & Pawlik, 1986). As with pain, dyspnea is what a patient says it is. Dyspnea has been described as fear, anxiety, depression, choking, feeling unable to catch one’s breath, or the inability to get enough air. Dyspnea is a distressing symptom that is perceived by the nervous system as a threat. As a result, people experience negative emotions (e.g., fear, anxiety) in response to negative stimuli (Banzett et al., 2000). The argument also exists that anxiety is a cause, not an effect, of dyspnea. Physiologic signs of dyspnea include pallor, cyanosis, tachypnea, and tachycardia. Other clinically accessible physiologic signs of dyspnea include nasal flaring, use of accessory muscles for breathing, and retraction of the intercostal spaces (Ripamonti & Bruera, 1997). Dyspnea-induced hypoxia may occur and cause confusion, cognitive impairment, and restlessness. Prompt and accurate nursing assessment of dyspnea can assist in identifying appropriate treatment interventions. Supplemental oxygenation and medications, along with treatment of the underlying cause of the dyspnea, may promote patient comfort. Nurses need to be skilled in assessing dyspnea experienced by patients with lung cancer and knowledgeable in implementing effective symptom management techniques.

Key Words: lung neoplasms, dyspnea, oxygen inhalation therapy

Dyspnea is a subjective sensation of breathlessness. This distressing symptom is experienced by many patients with lung cancer and often is accompanied by physiologic signs and symptoms, such as tachypnea, tachycardia, pallor, and cyanosis. Dyspnea-induced hypoxia may occur and cause confusion, cognitive impairment, and restlessness. Prompt and accurate nursing assessment of dyspnea can assist in identifying appropriate treatment interventions. Supplemental oxygenation and medications, along with treatment of the underlying cause of the dyspnea, may promote patient comfort. Nurses need to be skilled in assessing dyspnea experienced by patients with lung cancer and knowledgeable in implementing effective symptom management techniques.

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Dyspnea is a distressing symptom that is experienced by many patients with lung cancer, as well as patients with advanced lung cancer were 80% more likely to be short of breath compared to patients in other diagnostic categories. In fact, dyspnea was the most common symptom experienced by patients with lung cancer, as well as patients with advanced cancer regardless of the cancer site (Cooley). Unfortunately, dyspnea is underdiagnosed and inadequately managed because of a lack of recognition or availability of effective interventions. Despite the
frequency of this symptom, little research has been conducted to identify effective treatment in patients with cancer. This problem requires more recognition and better management, as dyspneic patients with cancer frequently are unable to perform activities of daily living because of the fatigue, discomfort, and anxiety associated with the inability to breathe normally (Wickham, 2002).

The goal of nursing assessment is to gain a holistic picture of a patient’s experience of dyspnea. This can be accomplished by obtaining the following information:

- Medication history
- Medical history and current cancer treatments
- Smoking history and social history, including chemical exposures
- Psychosocial history (i.e., presence of fatigue, anxiety, and depression)
- History of the presenting symptom and subjective data
- Review of systems with a focus on the respiratory system and the symptom of dyspnea

Gaining a clear understanding of a patient’s experience of dyspnea is beneficial in the assessment process. This can be accomplished by asking general, open-ended questions about how patients describe the quality of their breathing and any precipitating or aggravating factors (Wickham, 2002). Nurses can help patients to quantify their degree of dyspnea by asking questions such as:

- Do you feel like you are getting enough air?
- When do you feel the most short of breath—when you are at rest, when you are climbing stairs, or when you are walking a short distance?
- How does this compare to the last time you were here?
- How long does it take you to catch your breath once you sit down after activity?

When discussing dyspnea, using language that patients can relate to, such as “shortness of breath” and “trouble breathing,” is important (Wickham).

As part of the physical assessment of patients with dyspnea, checking vital signs and focusing on the respiratory rate and quality of breathing (e.g., shallow, rapid) are important. Patient observation provides information such as general appearance in terms of skin color, clubbing of the fingers, cyanosis of mucosa or nail beds, use of accessory muscles, difficulty speaking, nonverbal cues of anxiety, or emotional distress. A pulse oximetry at rest and with activity provides vital information concerning the severity of hypoxia, and a review of patients’ laboratory values (e.g., complete blood count, chemistry panel) is useful to complete the overall picture of patients with dyspnea (Wickham, 2002).

At present, the most commonly used interventions for dyspnea are supplemental oxygen and medications (e.g., opioids, bronchodilators, steroids, diuretics) (Luce & Luce, 2001). Descriptive nursing research and randomized controlled studies conducted in the United Kingdom corroborate nursing interventions such as behavioral modification and psychosocial support (Pan, Morrison, Ness, Fugh-Berman, & Leipzig, 2000). Oncology nurses can play a significant role in the assessment and management of dyspnea in patients with lung cancer. A thorough nursing assessment of patients is the initial step in implementing any therapeutic intervention. Especially in the case of assessing dyspnea, nurses must attempt to uncover the underlying cause(s) and implement the appropriate intervention. This can be a challenge for nurses because dyspnea in patients with lung cancer has multiple etiologies and cannot always be pinpointed to one specific cause.

Behavioral interventions have been the cornerstone of nursing interventions for many cancer-related symptoms, such as pain, anxiety, and nausea. Research has shown that one important behavioral intervention that can be used with dyspneic patients with cancer is education regarding more effective breathing exercises (Pan et al., 2000). Three main categories of breathing exercises exist: diaphragmatic breathing, alteration of the breathing rhythm, and pursed-lip breathing. Diaphragmatic breathing can be used to improve the effectiveness of the breaths taken and promote a feeling of relaxation or stress reduction. The key to teaching effective diaphragmatic breathing is to instruct patients to locate the diaphragm muscle and use that muscle to breathe instead of using the accessory muscles (Gallo-Silver & Pollack, 2000). The goal of altering the breathing rhythm is to make patients conscious of slowing the rate of breathing to allow for deeper, more effective breaths (Gallo-Silver & Pollack). The use of the pursed-lip breathing technique is another way to encourage patients to clear their lungs completely of carbon dioxide to make room for more oxygen (Gallo-Silver & Pollack). The usefulness of these exercises in end-stage dyspneic patients with lung cancer is not known fully; however, these exercises may help patients with earlier-stage disease who are dependent on oxygen. More research must be conducted to determine whether the implementation of these exercises can decrease the sensation of dyspnea or decrease the doses of medications used to relieve dyspnea.

Dyspnea in patients with lung cancer has multiple etiologies; more than one intervention may need to be implemented for therapeutic results. Oncology nurses can incorporate the use of these exercises into the care of patients with lung cancer to improve overall quality of life. Nurses also can involve family members and significant others to assist patients with these exercises. In addition to the behavioral interventions mentioned, nurses are in a position to provide emotional support and counseling to help relieve anxiety or other emotional distress associated with a diagnosis of lung cancer. Nurses can refer patients to social work or other counseling resources to assist with the emotional component of dyspnea (Wickham, 2002). Overall, the nursing focus for patients with cancer is to improve quality of life through symptom management. Thus, nurses should identify and address the symptom of dyspnea in their patients, especially those with lung cancer.

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References


