

Is Dyspnea Management Evidence-Based?

Reviewing the articles published in the past 40 years in the Oncology Nursing Forum (ONF) can assist in the identification of trends related to lung cancer treatment and management. Fifty-eight articles or studies published in ONF during that time were specific to lung cancer. The total number of published articles increased with each decade, but no articles were identified in the 1970s. The topics were quite varied, with each of the following represented by three or more articles: symptom clusters, radiation, smoking cessation, dyspnea, nutrition, and quality of life. To better focus this review on a specific aspect of lung cancer management, dyspnea was chosen.

The cancer treatment paradigm has changed considerably in the past 40 years, from a focus of palliation to a focus on cure or cancer as a chronic illness. However, the advances in lung cancer have not progressed at the same rate. It was unclear until the late 1960s that cigarette smoking was associated with lung cancer (Spiro & Silvestri, 2005). The antismoking campaign, beginning in the 1970s, had a considerable impact on society, with cigarette smoking numbers declining annually since 1973 (Warner, 1981). Screening for lung cancer was based primarily on chest x-rays, until low-dose spiral computed tomography (CT) trials began (Spiro & Silvestri, 2005). Today, spiral CTs are only recommended for those at high risk for developing lung cancer, and no screening recommendations are in place for those at moderate or low risk (National Comprehensive Cancer Network [NCCN], 2013a). The treatments for lung cancer continue to include surgery, chemotherapy, and radiation. Surgical and radiation techniques have improved, as well as chemotherapy, which has an arsenal of new agents since the 1970s (Spiro & Silvestri, 2005). Unfortunately, the survival rates only slightly improved. Pharmacogenomics have now become standard practice in non-small cell lung cancer, with the use of epidermal growth factor receptor inhibitors and anaplastic lymphoma kinase-directed therapy, but have no benefit in small cell lung cancer (NCCN, 2013b, 2013c). Although treatment has had a minimal effect on survival, symptom management of dyspnea improved and, subsequently, enhanced patients' quality of life.

Dyspnea is one of the most common and most feared symptoms of those who are terminally ill (Ben-Aharon, Gafer-Gvili, Paul, Leibovici, & Stemmer, 2008; Bonk, 2012). Dyspnea is most prevalent in those with primary lung cancer and metastases to the lung. In reviewing articles published in *ONF*, it became clear that nursing-specific interventions related to dyspnea management have improved and become evidence-based.

Early Research

The first article identified about dyspnea reviewed the mechanisms of dyspnea as well as the clinical management (Foote, Sexton, & Pawlik, 1986). The suggested management was very similar to today and included breathing techniques, positioning, emotional support, relaxation, activity planning, oxygen therapy, and pharmacologic agents. It was interesting to note that relaxation techniques were described only as muscle relaxation, which was achieved by the nurse placing hands on the patient's tense shoulders and pushing downward or the patient dangling his or her arms and rotating at the shoulders. The information in Foote et al. (1986) was extrapolated from research on the treatment of dyspnea in those with chronic obstructive pulmonary disease (COPD). Another article (Brown, Carrieri, Janson-Bjerklie, & Dodd, 1986) presented the findings from a nursing study identifying patient perceptions of dyspnea, coping strategies used by patients, and the relationship between activity and dyspnea. Interestingly, although patients identified adaptive strategies, about 90% of the patients stated that the strategies were self-taught. No patients identified nurses as the source of adaptive strategies.

Focus on Treatment

Sarna and Ganley (1995) reported results of another nursing study that assessed the readability and content of patient education material specific to lung cancer. Only five sources were identified and reviewed. Their findings indicated that the content was written at a 10th–12th grade reading level. The focus was on treatment, with minimal to no inclusion of psychosocial issues, supportive services, rehabilitation, or financial concerns. When the content was broken down further by symptoms, only two of the five sources included information on dyspnea.

Jantarakupt and Porock (2005) published an article similar to that by Foote et al. (1986). The focus was to evaluate the evidence related to dyspnea and COPD

and extrapolate it to lung cancer. The article by Jantarakupt and Porock (2005) was very thorough and contained a review of research from 1980–2001 on the pharmacologic and nonpharmacologic treatment of dyspnea. New treatments since Foote et al. (1986) was published included bronchodilators, nebulized local anesthetics, exercise, and nutrition management. Relaxation techniques were expanded to include complementary therapies, such as yoga and Tai Chi. Therefore, evidence was identified in the treatment of dyspnea in COPD, and the authors suggested these be applied to patients with cancer as well. The mechanisms of dyspnea were better understood, with more in-depth knowledge related to pathophysiology and etiology.

Current Research

Today, nurse researchers and the profession of nursing share the goal of developing evidence-based nursing practice. Bonk (2012) published an overview of the management of dyspnea in lung cancer. Bonk's article reviewed the many nurse-driven interventions reported by Foote et al. (1986) and Jantarakupt and Porock (2005). However, these interventions were now supported by research specific to patients with lung cancer or lung metastases. Many of the interventions

of the past 40 years, extrapolated from the treatment for COPD, have now been tested for effectiveness in patients with cancer. Ben-Aharon et al. (2008), in their systematic review of interventions to relieve dyspnea, found that research on nurse-driven interventions was beneficial, improving both breathlessness and quality of life. Oncology nurses are building the evidence-based science of nursing, as well as improving the quality of life of patients with lung cancer.

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