Nutrition Screening and Counseling in Adults With Lung Cancer: A Systematic Review of the Evidence

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Maintenance of adequate nutrition is an integral component of the cancer treatment process. Numerous factors should be considered when evaluating the nutritional status of patients with cancer. A systematic review of the literature revealed the importance of nutrition interventions in patients with cancer who were undergoing chemotherapy. Counseling in nutrition has been shown to improve quality of life, strengthen response to therapy, and increase survival. Lung cancer presents a significant risk as the leading cause of cancer morbidity and mortality in the United States. In addition, nutritional deficiencies are experienced by most adults with lung cancer during the course of their disease and treatment. The deficiencies compound the cost of treatment and also increase morbidity and mortality in this patient population. Further study of nutritional interventions is needed to promote better outcomes and quality of life in patients with lung cancer.

Lung cancer is the leading cause of cancer morbidity and mortality in men and women worldwide (Molina, Yang, Cassivi, Schild, & Adjei, 2008). In 2010, lung cancer will be the leading cause of death, out ranking cardiovascular disease (Centers for Disease Control and Prevention [CDC], 2007). Smoking cessation programs have been beneficial in decreasing smoking prevalence, but an associated rise in lung cancer has been observed in former smokers. In a cohort study done from 1997-2002, 60% of newly diagnosed patients with lung cancer were former smokers and only 25% were current smokers (Yang, Allen, & Aubry, 2005). The cost of treatment for lung cancer was $9.6 billion in 2004 (CDC, 2007). The total burden, including costs of medications and missed time from work, was $190 billion (CDC, 2007).

Nutritional deficiencies that accompany any diagnosis of cancer can compound the cost of treatment and also increase the risk of morbidity and mortality (Bauer, Capra, & Ferguson, 2002). Nutritional deficiencies can decrease response to therapy, which translates to decreased quality of life and survival (Andreyev, Norman, Oates, & Cunningham, 1998; Dewys et al., 1980). Screening for the deficiencies at diagnosis is important in all patients with cancer and has been shown to be effective in lung cancer (Bauer & Capra, 2005; Brown, 2002; Slaviero, Read, Clarke, & Rivory, 2003).

Nutrition screening is the process of assessing the characteristics and risk factors that will predispose a patient to deficiencies (McMahon & Brown, 2000). To accomplish the screening, a complete nutritional assessment is needed. The recommendation is to start the assessment within 48 hours of admission or diagnosis of cancer and with initiation of therapy, change in therapy, or a weight change of 2%-5% (McMahon & Brown, 2000; Shils, 1979). The information obtained in the screening process should include the following: weight changes, food consumption, functional status, symptoms related to the cancer, and physical examination. Biochemical indicators, such as serum albumin, also are evaluated (McMahon & Brown, 2000).

Many tools can be used to evaluate nutritional status. The scored Patient-Generated Subjective Global Assessment (PG-SGA)