Diabetes and Cancer: Impact on Health-Related Quality of Life

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Diabetes and cancer are two commonly occurring diseases in the worldwide population (Giovanucci et al., 2010). In the United States, about 11% of individuals aged 20 years and older have diabetes (Giovanucci et al., 2010). Among individuals with cancer, 8%–18% have preexisting diabetes (Barone et al., 2010). Patients with cancer and diabetes have higher mortality and complication rates and are more likely to be hospitalized than patients with cancer who do not have diabetes (Attili et al., 2007; Barone et al., 2008; Giovanucci et al., 2010; Peairs et al., 2011; Psarakis, 2006).

Barone et al. (2010) found that individuals with preexisting diabetes and cancer had a 50% increased risk of mortality after surgery for cancer compared to those who had cancer without diabetes. Patients with cancer and preexisting diabetes have an increased risk for all-cause mortality (hazard ratio = 1.41, 95% confidence interval [1.28, 1.55]) compared to individuals who had cancer without diabetes (Barone et al., 2008). The presence of hyperglycemia in patients with cancer and diabetes is associated with higher infection rates and shorter remission periods (Psarakis, 2006). Individuals with diabetes and cancer are more likely to be hospitalized for chemotherapy-related toxicity, infections, fever, neutropenia, or anemia (Peairs et al., 2011; Srokowski, Fang, Hortobagyi, & Giordano, 2009). Patients with cancer and diabetes also have poorer response rates to treatment, which may account for the higher mortality rates in this population (Attili et al., 2007).

The science is lacking in regard to how patients with cancer, with and without diabetes, differ in physical function, mental health, and social function while undergoing chemotherapy. Nurses may need to intervene sooner or differently in this population to maintain or improve overall health-related quality of life (HRQOL) during treatment. Patients with diabetes and cancer should be informed of the impact their cancer treatment may have on their overall HRQOL. The purpose of this study is to explore whether the HRQOL factors of physical function, mental health, and social function differ in patients with cancer and diabetes compared to those with cancer who do not have diabetes at the start of chemotherapy.

Study Framework

Wilson and Cleary’s (1995) HRQOL model was adapted for the current study. The model hypothesizes causal relationships among the following dimensions: biologic