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The Impact of Fatigue on Role Functioning During Radiation Therapy

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Purpose/Objectives: To identify the impact of fatigue, site-specific side effects, and individual characteristics on role activities during radiation therapy.

Design: Secondary data analysis.

Setting: A community radiation therapy department in the northeastern region of the United States.

Sample: 77 patients receiving radiation therapy for adjuvant or curative intent.

Methods: Items from the Piper Fatigue Scale and the Brief Fatigue Inventory were grouped into primary (i.e., basic activities of daily living), secondary (i.e., work and school activities), and tertiary (i.e., socialization with family and friends) roles according to the Roy Adaptation Model. Paired t tests and multiple regression were used to analyze performance of roles.

Main Research Variables: Primary, secondary, and tertiary roles.

Findings: Functioning in all three roles declined during treatment, with greater disruption in secondary roles than primary or tertiary roles. Patients maintained their primary and tertiary roles. Patients had greater difficulty maintaining secondary roles such as work and school activities. Treatment to the lung, pelvis, or head and neck; living alone; and an increase in total side-effect scores were associated with increased disruption in role functioning.

Conclusions: Radiation therapy-related fatigue can affect role functioning at the primary, secondary, and tertiary levels.

Implications for Nursing: Oncology nurses are in an ideal position to design interventions to help patients maintain activities at greatest risk for disruption. Future research where performance of specific activities is the primary outcome of interest is indicated.

Fatigue is one of the most common and distressing side effects of cancer and cancer treatment, particularly radiation therapy (Dhruva et al., 2010; Lundberg & Rattanasuwan, 2007; Poirier, 2006; Williams et al., 2006). Fatigue impacts many aspects of patients' quality of life, including the ability to carry out usual activities (Ahlberg, Ekman, & Gaston-Johansson, 2005; Barsevick, Dudley, & Beck, 2006; Browall et al., 2008; Dodd, Cho, Cooper, & Miaskowski, 2010; Hoffman et al., 2009; Knobf & Sun, 2005; Miaskowski et al., 2006; Poirier, 2007; Pud et al., 2008; Seifert, 2010; Suwisith et al., 2008; Thanaslip & Kongsaktrakul, 2005). Performance of usual activities is one representation of functional status (Tulman & Fawcett, 1990). The role function mode of the Roy Adaptation Model (RAM) provides a novel way to view functional status by describing the performance of behaviors associated with various roles taken on by an individual with cancer (Roy & Andrews, 1999). Those primary, secondary, and tertiary roles may take on differing levels of importance to individuals undergoing cancer treatment and, therefore, may be affected in varying degrees by fatigue and other treatment-related side effects.

Background

The American Cancer Society (2010) estimated that 1,529,560 new cases of cancer were diagnosed in the United States in 2010, not including in situ cancers and nonmelanoma skin cancers. Five-year relative survival rates have increased, from 50% in 1975 to 65% in 2007 (Howlader et al., 2011), possibly from a combination of early detection and improved treatment. Multimodality treatment involving some combination of surgery, chemotherapy, radiation therapy, and biotherapy currently is the mainstay of treatment for most cancers (National Comprehensive Cancer Network, 2010). About 60% of all patients diagnosed with cancer will receive radiation therapy at some point in their treatment (Gosselin, 2010), either alone or in combination with chemotherapy.

Although multimodality treatments for cancer have resulted in improved survival rates, they also have increased the number of adverse effects. Haylock and Hart (1979) were among the first to describe fatigue as a result of radiation therapy for cancer. Since that time, much attention has been given to the subject of cancer treatment-related fatigue. Fatigue, which has been reported in 65%–100% of patients receiving radiation therapy for cancer, consistently has been one of the most common and distressing side effects (Browall et al., 2008; Ekfors & Petersson, 2004; Kim, Jahan, et al., 2009; Stone, Richards, A'Hern, & Hardy, 2001). Fatigue related to radiation therapy follows a fairly consistent pattern, usually beginning in the second week of treatment, gradually increasing during the course of

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