**Fatigue in Adolescents With Cancer: A Review of the Literature**

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Since the 1980s, fatigue has become recognized as one of the most commonly reported symptoms in patients receiving cancer treatments, with an incidence that approaches 100%. Research now shows that fatigue occurs in patients at all stages of the disease, during treatment and for years after treatment ends. Patients also report that fatigue is the symptom that often causes the most distress (Curt et al., 2000; Nail, 2002). Fatigue, therefore, deserves attention as a priority symptom that researchers and clinicians must address to achieve optimal outcomes in patients’ quantity and quality of survival.

Despite progress made in understanding fatigue, measuring its occurrence, and reducing its severity, the study of fatigue has just begun to extend beyond the adult population. Research programs recently have provided insight into fatigue in adolescents with cancer, an age group that requires specialized study because of their unique cancer epidemiology and developmental tasks. The purpose of this paper is to review the literature related to the symptom of fatigue in adolescents with cancer, discusses future research directions, and recommends clinical strategies for management of fatigue in this population.

**Key Words:** Fatigue, adolescent

Fatigue is a prevalent and distressing symptom in people with cancer, and adolescents with cancer are no exception. Research on fatigue in the context of age and development will help in the development of age-specific prevention and management guidelines. The developmental profile, cancer epidemiology, and research needs related to adolescents with cancer are unique. A number of descriptive studies now form the foundation of scientific knowledge about cancer-related fatigue in adolescents. From this research, a definition of fatigue has been constructed and age-specific instruments have been developed. In addition, several correlates and interventions have been proposed for future testing. This article reviews relevant literature related to the symptom of fatigue in adolescents with cancer, discusses future research directions, and recommends clinical strategies for management of fatigue in this population.

**Cancer in Adolescents**

Adolescents with cancer have not been studied as a distinct patient population until recent years (Barr, 2001; Bleyer, 2002a, 2002b; Lewis, 1996). Data about this population usually are merged with data from other age groups (usually children) or, worse yet, not recorded at all. Adolescent oncology, however, is now emerging as a new subspecialty in cancer control.

Although the World Health Organization suggests that the period of adolescence is between 10 and 20 years of age, many other definitions have been proposed (Lewis, 1996). The Surveillance, Epidemiology and End Results program of the National Cancer Institute reports cancer incidence in five-year brackets and has assigned adolescence to the quintile of 15–19 years of age. In the literature, including the Cumulative Index of Nursing and Allied Health Literature (CINAHL) database, adolescence is considered to span the teenage years. Thus, research varies because of the differences in how adolescence is defined.

In the 1990s, cancer incidence among people ages 15–19 was 203 new cases per million people in the United States (Bleyer, 2002a). This number is higher than in any of the younger age quintiles. From 1973 to 1995, the incidence of cancer in all younger age groups, including adolescents, showed annual increases approaching 1%. Fortunately, this trend of increasing incidence of cancer in adolescents now appears to have stabilized (Bleyer, 2002b). Reasons for this changing incidence are not known.

Adolescent cancers show a unique combination of cancer types not seen in any other age group (see Figure 1). Many cancers in this age group also are seen in younger children, such as acute lymphoblastic leukemia and central nervous system tumors. Other diagnoses in adolescents rarely are seen in children younger than 15, such as germ cell tumors and thyroid cancer. Similarly, common diagnoses in younger children, such as Wilms’ tumor, and the most common cancers in adults, such as breast, colon, and lung cancers, rarely are seen in adolescents (Bleyer, 2002a, 2002b).

Success in treating cancer in adolescents has not been as great as the success in treating cancer in children. In 1990, the overall survival among people ages 15–19 years was 78% for all stages of cancer. For this age group, the cause-specific survival rate was 86% for all cancers. From 1995 to 2000, the cause-specific survival rate among people ages 15–19 years was 87%, with an overall survival rate of 92%.


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