Fatigue and Sleep Experiences at Home in Children and Adolescents With Cancer

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Children and adolescents undergoing cancer treatment frequently experience distressing symptoms, such as fatigue and sleep disturbance (Edwards, Gibson, Richardson, Sepion, & Ream, 2003; Miller, Jacob, & Hockenberry, 2011; Walker, Gedaly-Duff, Miaskowski, & Nail, 2010; Walker, Johnson, Miaskowski, Lee, & Gedaly-Duff, 2010). Fatigue is often characterized by physical symptoms, including lack of energy, decreased physical ability, and feelings of tiredness. It may be experienced before the initiation of treatment (Goedendorp, Gielissen, Verhagen, Peters, & Bleijenberg, 2008), during cancer treatment (Hinds, Hockenberry, Gattuso, et al., 2007; Perdikaris et al., 2009; Purcell et al., 2010), in disease-free survivors (Andrykowski, Donovan, Laronga, & Jacobsen, 2010; Bower et al., 2006), and at the end of life (Murphy, Alexander, & Stone, 2006; Teunissen et al., 2007; Ullrich et al., 2010).

Although the severity and frequency of fatigue have frequently been reported, many studies have not examined the multiple dimensions of fatigue—namely general, cognitive, and sleep/rest fatigue. The strategies for minimizing cancer-related fatigue in previous studies were predominantly physical exercise training interventions that primarily addressed the physical dimension and had documented benefits regarding fat mass, muscles, bones, flexibility, and endurance (Baumann, Bloch, & Beulertz, 2013; Braam et al., 2013; Chang, Mu, Jou, Wang, & Chen, 2013; Cramp & Daniel, 2008; Huang & Ness, 2011; Keats & Culos-Reed, 2008). However, other nonpharmacologic interventions (e.g., cognitive behavioral therapy, mind-body relaxation therapy, music therapy, sleep hygiene) may be useful in addressing other dimensions of fatigue, such as cognitive and sleep/rest fatigue, particularly in children who may not be able to perform physical exercise.

Multidimensional fatigue measures define the physical dimensions of fatigue with items such as feeling tired or experiencing physical weakness (Hinds, Hockenberry, Tong, et al., 2007; Varni, Burwinkle, Katz, Meeske, & Dickinson, 2002; Varni, Burwinkle, & Szer, 2004). Cognitive fatigue is defined by items such as having difficulty with paying attention to things or remembering what people say (Varni et al., 2002). Sleep/rest fatigue is...