An Integrative Review of Subjective and Objective Measures of Sleep Disturbances in Breast Cancer Survivors

Pinky H. Budhrani, PhD, ARNP, Cecile A. Lengacher, PhD, RN, Kevin Kip, PhD, Cindy Toft Hansen, PhD, ARNP, and Heather Jim, PhD

Background: Sleep disturbances are recognized as a side effect of cancer treatment, affecting physiological and psychological functioning. Sleep disturbances can persist through treatment and survivorship, and are increasingly prevalent among breast cancer survivors (BCSs).

Objectives: The purpose of this review is to summarize current research on subjective and objective measures of sleep disturbances, the association between subjective and objective measures, and interventions used to manage sleep disturbances among BCSs after the completion of treatment.

Methods: Articles published from 2003–2013 were retrieved using PubMed, Web of Science, and ScienceDirect. Key search terms included breast cancer, sleep actigraphy, and sleep disturbances. Articles assessing sleep subjectively and objectively in the post-treatment period were included.

Findings: Twelve studies met the inclusion criteria: seven descriptive studies; one interventional study; three randomized, controlled trials; and one longitudinal study. Nighttime awakenings and wake after sleep onset were the most affected sleep variables. Association between subjective and objective sleep was significant among metastatic BCSs. Cognitive-behavioral interventions showed significant improvements in sleep quality.

Fatigue, depression, and anxiety (Pinto & de Azambuja, 2011). Savel, Simard, Blanchet, Ivers, and Morin (2009) reported that 58% of BCSs who were about four years postdiagnosis reported sleep disturbances. In addition, BCSs who completed radiation therapy experienced sleep disturbances persisting for six months (Dhruva et al., 2012). Sleep disturbances persist through survivorship and are associated with increased comorbidities and early mortality among BCSs (Palesh et al., 2014).

Sleep disturbances can be measured subjectively and objectively. Subjective measures include the Pittsburgh Sleep Quality Index (PSQI) (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) and the General Sleep Disturbance Scale (GSMS) (Lee, 1992). Objective measures include polysomnography and...