

# Sleep Across Chemotherapy Treatment: A Growing Concern for Women Older Than 50 With Breast Cancer

Carol A. Enderlin, PhD, RN, Elizabeth Ann Coleman, PhD, RNP, AOCN®,  
Catherine Cole, PhD, RN, ACNS-BC, Kathy C. Richards, PhD, RN, Laura F. Hutchins, MD,  
and Allen C. Sherman, PhD

**A**s women age, their risk for neoplastic disorders such as breast cancer rises, with 66% of cases occurring in those aged 55 years or older (American Cancer Society, 2009). Estimated risk for developing breast cancer from age 60–69 years is 1 in 27 and continues to increase with age; about 126,964 of the estimated 192,370 new cases of breast cancer diagnosed in 2009 were anticipated in women aged 55 years or older (National Cancer Institute, 2009). With the increasing numbers of breast cancer cases in older women, an urgent need exists for a better understanding of their symptoms, including sleep impairment.

Women are at higher risk for developing sleep impairment because of increased age alone. Sleep changes including an increased number of night-time awakenings, decreased sleep efficiency (percentage of time spent asleep when in bed), increased daytime naps, and decreased ability to phase shift (change the routine sleep time backward or forward) all are characteristic of normal aging (Bliwise, 2005). Among adults older than 65 years, sleep-phase advance such as lark tendencies or early awakening and sleep disorders such as insomnia, prolonged sleep-onset latency (time from going to bed to sleep onset), and sleep-maintenance (staying asleep) issues are common (Bliwise, 2005).

Sleep in women aged 50 years or older is complicated further by menopause, which occurs at about age 51 (National Institute on Aging, 2009), although it may occur earlier or as late as age 58 (Moe, 2005). Common complaints associated with menopause include difficulty falling asleep, increased awakenings, and daytime sleepiness. However, menopause has not been demonstrated to be a strong predictor of specific sleep disorder symptoms, although perimenopausal and postmenopausal women have described their sleep as less satisfactory than premenopausal women (Young,

**Purpose/Objectives:** To conduct a metasynthesis of human sleep studies that included women aged 50 years and older with breast cancer across chemotherapy treatment.

**Data Sources:** English publications were searched with the terms *sleep* and *breast cancer* via Ovid, PubMed, and EBSCO-host databases. Human studies that used sleep-specific instruments published from January 1974–May 2009 were included. Intervention studies also were included if they provided baseline sleep data. Studies that used quality-of-life or symptom instruments or in which patients were prescreened for insomnia were not included.

**Data Synthesis:** 382 publications were found; 17 met inclusion criteria, and 3 additional studies were located from the literature on fatigue. Two articles reported on the same study, so a total of 19 studies were included in the review. In women with nonmetastatic breast cancer, subjective and objective sleep quality appear to be poor and nocturnal awakenings frequent across chemotherapy treatment. Daytime sleepiness increases in the active phase of chemotherapy, and insomnia symptoms are common before and following chemotherapy treatment. In women with recurrent or metastatic breast cancer, difficulty falling asleep, nocturnal awakenings, difficulty awakening, and daytime sleepiness are problematic at different points in chemotherapy treatment.

**Conclusions:** Sleep for women, including those older than 50 years, appears to be impaired across chemotherapy treatment, although replication of findings is very limited.

**Implications for Nursing:** Future research should investigate sleep in specific age and minority groups, include daytime sleep and sleepiness, and use standard sleep nomenclature and objective measures.

Rabago, Zgierska, Austin, & Laurel, 2003). Hot flashes may be severe enough to awaken women during menopause (National Institute on Aging, 2009) and are likely to be experienced by women with breast cancer as a side effect of chemotherapy-induced ovarian disruption or of hormonal therapy following chemotherapy