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# FAT LOSS SOLUTIONS FOR OVERWEIGHT BREAST CANCER PATIENTS WITH SLEEP DISTURBANCES

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**Objective:** Obese breast cancer patients obtain lower pathological complete response rates and experience more neuropathy, anemia, fatigue, and depression during chemotherapy; have more surgical complications such as infection, seroma, implant loss, and lymphedema; more radiation dermatitis and esophagitis; lower disease-free survival and overall survival plus more grade 3 and 4 side effects under anti-HER2 treatments; lower Fulvestrant and Anastrozole efficacy; and more AET-related and Alpelisib side effects; the main impact coming from the fact that these are the main causes of treatment non-adherence and discontinuation. Due to the detrimental metabolic and behavioral impact, the quality of sleep is one of the important patient-related factors that needs to address when addressing obesity-related causes to improve oncologic outcomes. **Methods:** Seeking fat loss solutions for overweight ER+ breast cancer patients with sleep disturbances, we randomized 50 patients — of which 16 were depressive — to follow a high protein diet (D) or the diet and sleep journal interventions (D+SJ) for 8 weeks. Patients ate only when they were hungry, ate foods that were high in protein, calcium, omega-3, pre-, and probiotics, and wrote a daily food journal. Half of the patients were asked to write a 7-day SJ: the time it took them to fall asleep, the number of awakenings during the night, how much they slept, how much they stayed in bed, and self-perceived sleep quality. They were asked to set their sleeping and wake-up hours based on their SJ answers and to not sleep during the day. Eight patients from the D+SJ group left the study, five being depressive. We measured body composition with a bioelectrical impedance analysis scale. **Results:** The D group lost  $2.31 \pm 2.86\%$  of body fat ( $p=0.000$ ) and  $0.76 \pm 1.16\%$  of visceral fat ( $p=0.000$ ) with no differences between patients with or without depression. The D+SJ group improved sleep quality and lost  $2.16 \pm 2.35\%$  of body fat ( $p=0.002$ ) and  $0.86 \pm 1.24\%$  of visceral fat ( $p=0.005$ ); but depressive patients did not obtain statistically significant results, which may be because of the overtiring effect of the SJ intervention. So, both D and D+SJ interventions improve breast cancer patients' body composition despite sleep disturbances. **Conclusion:** SJ interventions improve sleep quality in patients without depression, thereby decreasing weight regain risk.

**Keywords:** Breast cancer. Obesity. Sleep wake disorders. Weight loss. Depression.