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Associations of Phase Angle with Sleep Quality, Fatigue, and Global Health in Women Newly Diagnosed with Breast Cancer

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Purpose: To present a cross-sectional investigation analyzing the associations of whole-body phase angle (PhA) with sleep quality, fatigue, and global health in women newly diagnosed with breast cancer.
Methods: Sixty-four newly diagnosed breast cancer patients waiting for their first chemotherapy cycle were enrolled in this investigation [mean age, 52.0±9.5 years; body mass index (BMI), 26.2±4.9 kg/m2; PhA, 5.5±0.5°]. PhA was measured using a phase sensitive bioelectrical impedance analysis (BIA) device at 50kHz. Sleep quality, fatigue, and global health were assessed using validated questionnaires, including the Pittsburgh Sleep Quality Index, Functional Assessment of Chronic Illness Therapy - Fatigue, and European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire, respectively. Associations were examined using multiple linear regression analysis models, including age and BMI as covariates (Model 1: unadjusted; Model 2: adjusted for age; Model 3: age and BMI).
Results: Higher whole-body PhA was associated with improved sleep quality, lower fatigue levels, and better global health. These associations were observed in unadjusted models (β=-0.337, p=0.007; β=0.262, p=0.036; and β=0.281, p=0.024, respectively), and remained associated after adjustment for age (β=-0.273, p=0.040; β=0.293, p=0.033; and β=0.283, p=0.039, respectively) and BMI (β=-0.303, p=0.027; β=0.338, p=0.016; and β=0.326, p=0.018, respectively).
Conclusion: Whole-body phase angle was independently associated with sleep quality, fatigue, and global health in women newly diagnosed with breast cancer, underscoring its clinical relevance as a simple, non-invasive marker of health status. Further research should examine whether PhA can be used to monitor changes throughout the disease trajectory.

Keywords

Bioelectrical impedance analysis, Raw parameters, Patient-reported outcomes, Quality of life

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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