

A Stepped Care Intervention to Improve Sleep in Colorectal Cancer Patients Receiving Chemotherapy: Results from a Randomized Controlled Trial

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Abstract

Colorectal cancer patients frequently experience a substantial symptom burden, with sleep disturbances reported in approximately 50% of cases. This study aimed to evaluate the effectiveness of a stepped integrative sleep care model in improving sleep quality among patients undergoing chemotherapy. A total of 56 inpatients with stage II–IV colorectal cancer were randomized into either an experimental group receiving stepwise interventions (sleep hygiene followed by brief behavioral therapy for insomnia [BBTI] if Insomnia Severity Index (ISI) ≥ 8) or a control group receiving routine care. Sleep quality, anxiety, depression, and quality of life were assessed longitudinally over three months. Generalized Estimating Equation (GEE) analyses showed that the experimental group had significantly better sleep quality (estimated mean 3.93 vs. 6.07, $p = .011$). After adjusting for baseline ISI scores, group differences remained significant ($p < .001$). Education level, cancer stage, and anxiety scores significantly moderated intervention effects. The model demonstrated consistent benefits across subgroups and supports tailored, nonpharmacologic sleep care in oncology settings.

Keywords

Stepped care, BBTI, Colorectal cancer, Sleep quality, Chemotherapy.

