Tailored Light Treatment Improves Dementia Symptomatic Behavior

Persons with Alzheimer’s disease and related dementias (ADRD) are often difficult for family caregivers to manage because of sleep problems, nocturnal wandering, and associated daytime irritability. The present study was designed to test the effectiveness of a tailored light treatment on sleep quality, agitation and depression in those with ADRD living in nursing homes.

Methods
Custom luminaires were built for this study using parts currently available on the market, and were installed in 14 nursing home residents’ rooms for a period of four weeks. The luminaires delivered high circadian stimulation to the residents during daytime hours, via low levels (300–400 lux at the cornea) of a bluish-white light source (correlated color temperature > 9000 K). Objective outcome measures included sleep, rest/activity patterns, and circadian disruption; subjective outcome measures included sleep quality, depression, agitation, and activities of daily living. Data were collected prior to the lighting intervention installation, at the end of the four-week intervention, and four weeks after the intervention was removed (except for objective measures).

Results
Exposure to the tailored light treatment significantly increased sleep time, sleep efficiency, and phasor magnitude, consistent with an increase in circadian entrainment. Light exposure significantly reduced depression and agitation. Total sleep time and sleep efficiency were also significantly greater after light intervention.

Sponsor
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GE Lighting

Conclusion
A light treatment tailored to increase circadian stimulation during the day can be used to increase quality of life in those with ADRD.

Publication