

## A Controlled Trial of the Litebook Light-Emitting Diode (LED) Light Therapy Device for Treatment of Seasonal Affective Disorder (SAD)

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### Background

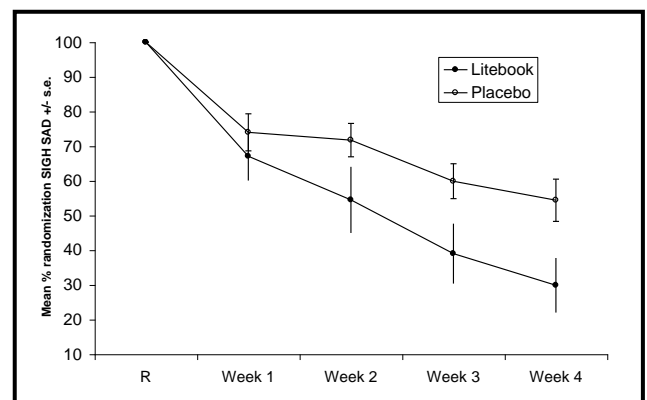
Recent research has emphasized that the human circadian rhythm system is differentially sensitive to short wavelength light. Light treatment devices using efficient light-emitting diodes (LEDs) whose output is relatively concentrated in short wavelengths may enable a more convenient effective therapy for Seasonal Affective Disorder (SAD).

### Methods

The efficacy of a LED light therapy device in the treatment of SAD was tested in a randomized, double-blind, placebo-controlled, multi-center trial. Participants aged 18 to 65 with SAD (DSM-IV major depression with seasonal pattern) were seen at Baseline and Randomization visits separated by 1 week, and after 1, 2, 3 and 4 weeks of treatment. Hamilton Depression Rating Scale scores (SIGH-SAD) were obtained at each visit. Participants with SIGH-SAD  $\geq 20$  at Baseline and Randomization visits were randomized to active or control treatment: exposure to the Litebook LED treatment device (The Litebook Company Ltd., Alberta, Canada) which delivers 1,350 lux white light (with spectral emission peaks at 464 nm and 564 nm) at a distance of 20 inches or to an inactivated negative ion generator at a distance of 20 inches, for 30 minutes a day upon awakening and prior to 8 A.M.

### Results

Of the 26 participants randomized, 23 completed the trial. Mean group SIGH-SAD scores did not differ significantly at randomization. At trial end, the proportions of participants in remission (SIGH-SAD < 9) were significantly greater (Fisher's exact test), and SIGH-SAD scores, as percent individual score at randomization, were significantly lower (t-test), with active treatment than with control, both in an intent-to-treat analysis and an observed cases analysis. A longitudinal repeated measures ANOVA analysis of SIGH-SAD scores also indicated a significant interaction of time and treatment, showing superiority of the Litebook over the placebo condition.



### Conclusions

The results of this pilot study support the hypothesis that light therapy with the Litebook is an effective treatment for SAD.

**Trial registration:** Clinicaltrials.gov: NCT00139997

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