Light Therapy For Nonseasonal Major Depressive Disorder?

While bright light therapy already has a place in the treatment of seasonal affective disorder, a recent trial spotlights its utility beyond the winter months.

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PRACTICE CHANGER

Consider treatment with bright light therapy, alone or in combination with fluoxetine, for patients with nonseasonal major depressive disorder.[1]

STRENGTH OF RECOMMENDATION

B: Based on a single moderate-quality randomized controlled trial.[1]

A 38-year-old woman recently diagnosed with major depressive disorder (MDD) without a seasonal pattern presents to discuss treatment options. Her Hamilton Depression Rating Scale (HAM-D) score is 22, and she is not suicidal. Should you consider bright light therapy in addition to pharmacotherapy?

MDD is one of the most common psychiatric illnesses in the United States, affecting approximately one in five adults at some point in their lives.[2] Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors are considered effective firstline pharmacotherapy options for MDD.[2,3] Despite their effectiveness, however, studies have shown that only about 40% of patients with MDD achieve remission with firstline or secondline drugs.[2] In addition, pharmacologic agents have a higher frequency of treatment-associated adverse effects than fluorescent light therapy.[4]

A Cochrane systematic review of 20 studies (N = 620) demonstrated the effectiveness of combined light therapy and pharmacotherapy in treating nonseasonal MDD but found no benefit to light used as monotherapy.[5] However, the majority of the studies were of poor quality, occurred in the inpatient setting, and lasted less than four weeks.

In a five-week, controlled, double-blind trial not included in the Cochrane review, 102 patients with nonseasonal MDD were randomized to receive either active treatment (bright light therapy) plus sertraline (50 mg/d) or sham light treatment (using a dim red light) plus sertraline (50 mg/d). The investigators found a statistically significant reduction in depression score in the active treatment group compared to the sham light group, based on the HAM-D, the Hamilton 6-Item Subscale, the Melancholia Scale, and the seven atypical items from the Structured Interview Guide for the Seasonal Affective Disorder version of the HAM-D.[6,7]

STUDY SUMMARY

Light therapy improves nonseasonal depression

This latest study was an eight-week, randomized, double-blind, placebo- and sham-controlled clinical trial evaluating the benefit of light therapy with and without pharmacotherapy for nonseasonal MDD.[1] The investigators enrolled 122 adult patients (ages 19 to 60) from outpatient psychiatry clinics who had a diagnosis of MDD (diagnosed by a psychiatrist) and a HAM-D[8] score of at least 20. Subjects had to be off psychotropic medication for at least two weeks prior to the first visit; they were subsequently monitored for one week to identify spontaneous responders and give patients time to better regulate their sleep-wake cycle (with the goal of sleeping only between 10 PM and 8 AM daily).

The investigators randomly assigned patients to one of four treatment groups:

- Active light monotherapy (10,000-lux fluorescent white light for 30 min/d early in the morning) plus a placebo pill
- Fluoxetine (20 mg/d) plus sham light therapy
- Placebo pills with sham light

continued on page 30 >>

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>> *continued from page 28*

therapy; or
- Combined active light therapy with fluoxetine (20 mg/d).

Sham light therapy consisted of the use of an inactivated negative ion generator, used in the same fashion as a light box. All patients were analyzed based on modified intention to treat. Adherence was assessed through review of patients' daily logs of device treatment times and through pill counts.

The primary outcome at eight weeks was the change from baseline in the Montgomery-Asberg Depression Rating Scale (MADRS), a 10-item questionnaire with a worst score of 60.[9] Secondary outcomes were treatment response (≥ 50% reduction in MADRS score) and remission (MADRS score ≤ 10) at the final eighth-week visit. MADRS scoring was used because of its sensitivity to treatment-induced changes and its high correlation with the HAM-D scale.

At the end of eight weeks, the mean changes in MADRS scores from baseline were: light monotherapy, 13.4; fluoxetine monotherapy, 8.8; combination therapy, 16.9; and placebo, 6.5. The improvement was significant in the light monotherapy treatment group and in the combination therapy group, compared with the placebo group, and in the combination group, compared with the fluoxetine treatment group; improvement was *not* significant for the fluoxetine treatment group compared with the placebo group, however.

The treatment response (≥ 50% MADRS improvement) rate was highest in the combination treatment group (75.9%), followed by light monotherapy (50%), placebo (33.3%), and fluoxetine monotherapy (29%). There was a significant response effect for the combination versus placebo treatment group.

Similarly, there was a higher remission rate in the combination treatment group (58.6%) than in the placebo, light monotherapy, or fluoxetine treatment groups (30%, 43.8%, and 19.4%, respectively). Combination therapy was superior to placebo in treatment response (≥ 50% reduction in the MADRS score) and remission (MADRS ≤ 10), with numbers needed to treat of 2.4 and 3.5, respectively.

By the end of the eight-week study period, 16 of 122 patients had dropped out. Two reported lack of efficacy, five reported adverse effects, and the remainder cited administrative reasons, were lost to follow-up, or withdrew consent.

WHAT'S NEW

New evidence on a not-so-new treatment

We now have evidence that bright light therapy, either alone or in combination with fluoxetine, is efficacious for increasing the remission rate of nonseasonal MDD.

CAVEATS

Variables may have affected results

Among the study's limitations: use of a single SSRI (other, more potent SSRIs might work better); location (southern Canada; benefits may differ in regions farther south); and exclusion of pregnant and breastfeeding women from the study population.

Furthermore, the trial duration was relatively short, and the investigators did not attain their preplanned sample size for the study. This limited the power to detect clinically significant seasonal treatment effects and differences between the fluoxetine and placebo groups, regardless of whether they received active phototherapy.

CHALLENGES TO IMPLEMENTATION

Commercial insurance doesn't usually cover light therapy

Bright light therapy is fairly safe, and some evidence exists supporting its use in the treatment of nonseasonal MDD; however, the data for its use in this area are limited.[10] Since few studies have tested light therapy for nonseasonal MDD, uncertainty remains about patient selection, as well as optimal dose, timing, and duration in the management of nonseasonal MDD.[11] Although the associated risks are minimal, bright light therapy can lead to mania or hypomania; clinicians need to monitor for such effects when initiating therapy.[3]

Lastly, commercial insurance does not usually cover light therapy. The average price of the bright light devices, which are available in medical supply stores and online, ranges from $118 to $237.[4,11] However, such devices are reusable, making the amortized cost almost negligible and perhaps negating this concern.[12] **CR**

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