Review: Bright-light therapy and dawn simulation reduce symptom severity in seasonal affective disorder

Golden RN, Gaynes BN, Ekstrom RD, et al. **The efficacy of light therapy in the treatment of mood disorders: a review and meta-analysis of the evidence.** Am J Psychiatry. 2005;162:656-62.

Clinical impact ratings: Mental Health ★★★★★★☆ GIM/FP/GP ★★★★★★☆

QUESTION

Is light therapy efficacious for treatment of mood disorders?

METHODS

Data sources: MEDLINE (1975 to July 2003), the Cochrane Library, and bibliographies of relevant reviews and studies.

Study selection and assessment: English-language randomized controlled trials (RCTs) of adults 18 to 65 years of age with a diagnosis of mood disorder based on DSM-III, DSM-III-R, DSM-IV, Research Diagnostic Criteria, or the Rosenthal criteria, who were in the acute phase of treatment. Treatment conditions had to meet the following minimum dose criteria: bright-light therapy for seasonal affective disorder (≥ 4 d of ≥ 3000 lux-h) vs placebo (≤ 300 lux); dawn simulation (increasing light exposure from 0 to 200 to 300 lux over 1 to 2.5 h) vs placebo (< 5 lux increase or < 15 min duration); and bright-light augmentation (≥ 4 d of ≥ 3000 lux-h and bright-light therapy as the primary adjunct to standard therapy).

Outcomes: Psychiatric symptom measures (e.g., Hamilton Depression Rating scale, Seasonal Affective Disorders Version).

MAIN RESULTS

20 RCTs (n = 693) met the inclusion criteria and had sufficient data to calculate mean scores and standard deviations. Meta-analyses showed that bright-light therapy and dawn simulation reduced depressive symptom severity more than placebo for seasonal affective disorder (Table). Bright-light therapy also reduced symptom severity more than placebo for nonseasonal depression (Table) but not when used as an adjunct to pharmacotherapy. Analysis of 4 trials that included data on remission (i.e., scores ≤ 8 on Hamilton Depression Rating Scale) showed increased remission with bright-light therapy in patients with seasonal affective disorder (odds ratio 2.9, 95% CI 1.6 to 5.4).

CONCLUSIONS

Bright-light therapy reduces the severity of depressive symptoms more than placebo for seasonal affective disorder and nonseasonal depression. Dawn simulation reduces symptom severity for seasonal affective disorder. Bright-light therapy as an adjunct to standard pharmacotherapy does not differ from placebo for nonseasonal depression.

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Bright-light therapy vs placebo for mood disorders at 6 to 42 days*

Therapy	Diagnosis	Number of trials (n)	Standardized mean difference (95% CI)
Bright light	Seasonal affective disorder Nonseasonal depression	8 (360) 3 (127)	0.84 (0.60 to 1.08) 0.53 (0.18 to 0.89)
Adjunctive bright light	Nonseasonal depression	5 (135)	–0.01 (–0.36 to 0.34)
Dawn simulation	Seasonal affective	5 (133)	0.73 (0.37 to 1.08)

*CI defined in Glossary. Differences > 0 favor treatment.

COMMENTARY

Motivated by the slow dissemination of light therapy into everyday practice, Golden and colleagues systematically reviewed evidence from randomized trials of the efficacy of light therapy for seasonal and nonseasonal depression. They found consistent evidence of efficacy of both bright-light therapy and dawn simulation for seasonal depression and of bright-light therapy for nonseasonal depression.

Some limitations should be mentioned. The studies were modest in size, and the database was probably not large enough to assess the possibility of publication bias. All studies of dawn simulation were conducted by a single research group.

For patients with seasonal depression, bright-light therapy (and possibly dawn simulation) can be considered safe and effective. Practitioners need to consider the prevalence of such patients in their practices and whether they should be doing anything different to identify them. Most large community and primary care surveys have not assessed seasonal depression, so a comprehensive picture is not available. Several small surveys report prevalence rates of 1% to 9% (1).

The findings of the meta-analysis by Golden and colleagues raise the question of whether bright-light therapy should be offered as first-line treatment for patients with nonseasonal depression. The available evidence (based on 127 patients in 3 trials) does not yet support firm conclusions on efficacy, and direct comparisons with standard first-line treatment (antidepressant medication or structured psychotherapy) are lacking. It seems likely, however, that a substantial number of patients might find light therapy more acceptable than current alternatives. Direct comparisons of both efficacy and effectiveness seem necessary.

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Reference

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