

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

# Bright Light Therapy for Depression: Clinical Effectiveness

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## Research Question

What is the clinical effectiveness of bright light therapy in patients with major depressive disorder or persistent depressive disorder?

## Key Findings

One systematic review, and two randomized controlled trials were identified regarding the clinical effectiveness of bright light therapy in patients with major depressive disorder or persistent depressive disorder.

## Methods

A limited literature search was conducted by an information specialist on key resources including PubMed, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were depression and light therapy. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2014 and August 15, 2019. Internet links were provided, where available.

## Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

<b>Population</b>	Individuals of any age, in any setting, diagnosed with major depressive disorder or persistent depressive disorder (dysthymia).
<b>Intervention</b>	Bright light therapy administered either alone, or as an adjunct to pharmacotherapy or psychotherapy.
<b>Comparator</b>	Psychotherapy alone (e.g., cognitive behavioural therapy, interpersonal therapy), pharmacotherapy alone (e.g., any class or line of antidepressant, used alone or in combination), or multifaceted interventions.
<b>Outcomes</b>	Clinical effectiveness and safety (e.g., depression symptoms, dysphoric mood, self-esteem, activity or energy levels, interest or pleasure, weight, ability to think or concentrate, quantity of sleep, suicidality, adverse event, mania, eye irritation, headache, death)
<b>Study Designs</b>	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials

## Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first, followed by randomized controlled trials.

One systematic review<sup>1</sup>, and two randomized controlled trials<sup>2,3</sup> were identified regarding the clinical effectiveness of bright light therapy in patients with major depressive disorder or persistent depressive disorder. No relevant health technology assessments were identified.

Additional references of potential interest are provided in the appendix.

## Overall Summary of Findings

One systematic review<sup>1</sup> and two randomized controlled trials<sup>2,3</sup> were identified regarding the clinical effectiveness of bright light therapy in patients with major depressive disorder or persistent depressive disorder. The authors of the identified systematic review<sup>1</sup> found that using bright light therapy in combination with anti-depressant pharmacotherapy improved depressive symptoms or outcomes compared to anti-depressant pharmacotherapy alone in patients with major depressive disorder or bipolar depression without a seasonal pattern. The authors of the first identified randomized controlled trial<sup>2</sup> found that light therapy alone or in combination with antidepressant therapy was effective in reducing depressive symptoms (measured by the Montgomery-Asberg Depression Rating Scale) and was well-tolerated in adults with non-seasonal major depressive disorder. Additionally, the authors of a second identified randomized controlled trial<sup>3</sup> also found that both bright light therapy in combination with anti-depressant pharmacotherapy (venlafaxine) and anti-depressant pharmacotherapy alone significantly reversed the depressive mood of patients with severe major depressive disorder. However, the combination of the two had significantly stronger and more rapid improvements in depressive mood than anti-depressant therapy alone.<sup>3</sup>

## References Summarized

### Health Technology Assessments

No Literature identified.

### Systematic Reviews and Meta-analyses

1. Penders TM, Stanciu CN, Schoemann AM, Ninan PT, Bloch R, Saeed SA. Bright light therapy as Augmentation of Pharmacotherapy for Treatment of Depression: A Systematic Review and Meta-Analysis. *Prim Care Companion CNS Disord*. 2016 Oct 20;18(5).  
[PubMed: PM27835725](#)

### Randomized Controlled Trials

2. Lam RW, Levitt AJ, Levitan RD, et al. Efficacy of Bright Light Treatment, Fluoxetine, and the Combination in Patients With Nonseasonal Major Depressive Disorder: A Randomized Clinical Trial. *JAMA psychiatry*. 2016 Jan;73(1):56-63.  
[PubMed: PM26580307](#)

3. Guzel Ozdemir P, Boysan M, Smolensky MH, Selvi Y, Aydin A, Yilmaz E. Comparison of venlafaxine alone versus venlafaxine plus bright light therapy combination for severe major depressive disorder. *J Clin Psychiatry*. 2015 May;76(5):e645-654. [PubMed: PM26035199](https://pubmed.ncbi.nlm.nih.gov/26035199/)

## Appendix — Further Information

### Systematic Reviews and Meta-Analyses

#### *Type of Depression Not Specified*

4. Haller H, Anheyer D, Cramer H, Dobos G. Complementary therapies for clinical depression: an overview of systematic reviews. *BMJ open*. 2019 Aug 5;9(8):e028527. [PubMed: PM31383703](#)

#### *Type of Depression and Comparator Not Specified*

5. Hamers PCM, Festen DAM, Hermans H. Non-pharmacological interventions for adults with intellectual disabilities and depression: a systematic review. *J Intellect Disabil Res*. 2018 Aug;62(8):684-700. [PubMed: PM29797730](#)
6. Zhao X, Ma J, Wu S, Chi I, Bai Z. Light therapy for older patients with non-seasonal depression: A systematic review and meta-analysis. *J Affect Disord*. 2018 May;232:291-299. [PubMed: PM29500957](#)
7. Al-Karawi D, Jubair L. Bright light therapy for nonseasonal depression: Meta-analysis of clinical trials. *J Affect Disord*. 2016 Jul 1;198:64-71. [PubMed: PM27011361](#)
8. Perera S, Eisen R, Bhatt M, et al. Light therapy for non-seasonal depression: systematic review and meta-analysis. *BJPsych open*. 2016 Mar;2(2):116-126. [PubMed: PM27703764](#)
9. Martensson B, Pettersson A, Berglund L, Ekselius L. Bright white light therapy in depression: A critical review of the evidence. *J Affect Disord*. 2015 Aug 15;182:1-7. [PubMed: PM25942575](#)

#### *Alternative Population and Comparator Not Specified*

10. Smith CA, Shewamene Z, Galbally M, Schmied V, Dahlen H. The effect of complementary medicines and therapies on maternal anxiety and depression in pregnancy: A systematic review and meta-analysis. *J Affect Disord*. 2019 Feb 15;245:428-439. [PubMed: PM30423471](#)
11. van Ravesteyn LM, Lambregtse-van den Berg MP, Hoogendijk WJ, Kamperman AM. Interventions to treat mental disorders during pregnancy: A systematic review and multiple treatment meta-analysis. *PLoS One*. 2017;12(3):e0173397. [PubMed: PM28358808](#)

## Randomized-Controlled Trials

### *Alternative Population*

12. Desautels C, Savard J, Ivers H, Savard MH, Caplette-Gingras A. Treatment of depressive symptoms in patients with breast cancer: A randomized controlled trial comparing cognitive therapy and bright light therapy. *Health Psychol.* 2018 Jan;37(1):1-13.  
[PubMed: PM29172605](#)

### *Alternative Type of Depression and Comparator*

13. Rutten S, Vriend C, Smit JH, et al. Bright light therapy for depression in Parkinson disease: A randomized controlled trial. *Neurology.* 2019 Mar 12;92(11):e1145-e1156.  
[PubMed: PM30770426](#)
14. Sit DK, McGowan J, Wiltout C, et al. Adjunctive Bright light therapy for Bipolar Depression: A Randomized Double-Blind Placebo-Controlled Trial. *Am J Psychiatry.* 2018 Feb 1;175(2):131-139.  
[PubMed: PM28969438](#)
15. Yorguner Kupeli N, Bulut NS, Carkaxhiu Bulut G, Kurt E, Kora K. Efficacy of bright light therapy in bipolar depression. *Psychiatry Res.* 2018 Feb;260:432-438.  
[PubMed: PM29268206](#)
16. Zhou TH, Dang WM, Ma YT, et al. Clinical efficacy, onset time and safety of bright light therapy in acute bipolar depression as an adjunctive therapy: A randomized controlled trial. *J Affect Disord.* 2018 Feb;227:90-96.  
[PubMed: PM29053981](#)
17. Chojnacka M, Antosik-Wojcinska AZ, Dominiak M, et al. A sham-controlled randomized trial of adjunctive light therapy for non-seasonal depression. *J Affect Disord.* 2016 Oct;203:1-8.  
[PubMed: PM27267951](#)
18. Rutten S, Vriend C, Smit JH, et al. A double-blind randomized controlled trial to assess the effect of bright light therapy on depression in patients with Parkinson's disease. *BMC Psychiatry.* 2016 Oct 21;16(1):355.  
[PubMed: PM27769202](#)
19. Martiny K, Refsgaard E, Lund V, et al. Maintained superiority of chronotherapeutics vs. exercise in a 20-week randomized follow-up trial in major depression. *Acta Psychiatr Scand.* 2015 Jun;131(6):446-457.  
[PubMed: PM25689725](#)

## Review Articles

20. Cunningham JEA, Stamp JA, Shapiro CM. Sleep and major depressive disorder: a review of non-pharmacological chronotherapeutic treatments for unipolar depression. *Sleep Med.* 2019 May 2.  
[PubMed: PM31262550](#)

21. Schwartz RS, Olds J. The psychiatry of light. *Harv Rev Psychiatry*. 2015 May-Jun;23(3):188-194.  
[PubMed: PM25839643](#)