Mental health

Light therapy effective for nonseasonal depression

Light therapy, both as sole therapy and in combination with fluoxetine, is an effective treatment for nonseasonal depression, an American secondary care study has found.

All 122 participants, aged 19-60, had DSM-IV nonseasonal major depressive disorder of at least moderate severity. They were randomised to one of four treatment groups:

- Light treatment + placebo pill
- Fluoxetine + inactive negative ion generator
- Light + fluoxetine
- Inactive negative ion generator + placebo pill

Bright light treatment was given for 30 minutes in the early morning using a 10K lux fluorescent light box. The sham negative ion treatment was also given for 30 minutes in the early morning. The severity of depression was assessed at baseline and after the eight-week treatment period using the Montgomery-Åsberg Depression Rating Scale (MADRS).

The mean changes in the MADRS scores for light, fluoxetine, combination and placebo treatment were: 13.4, 8.8, 16.9 and 6.5 respectively. Compared with placebo, both light monotherapy effect size (d) = 0.80 (95% CI: 0.28-1.31) and combination treatment d = 1.11 (95% CI: 0.54-1.64) showed a significant benefit, but fluoxetine alone d = 0.24 (95% CI: -0.27 to 0.74) did not.

The wide confidence intervals and insignificant response to fluoxetine monotherapy suggest that the study was underpowered because of an insufficient number of participants. Nevertheless, the effect size for both light monotherapy and combination treatment is impressively large when compared with the overall effect size for published studies of antidepressant treatment (0.41).[1]

It is difficult to design studies of light therapy as participants are not blind to their treatment allocation and their treatment expectations may bias the results. The use of sham negative ion treatment is quite an ingenious solution, as negative ion treatment is itself promoted as a treatment for seasonal affective disorder (SAD) and there is some very limited evidence for its efficacy.[2] The researchers who invented this study design found that patients in their light and placebo groups had the same expectations of treatment effectiveness.[3]

SAD is recognised by DSM-IV as a subset of major depressive disorder. The criteria state that depressive episodes should regularly occur in the autumn or winter, with full remission in spring and that seasonal episodes should have occurred for at least the past two years. It has been difficult to determine whether or not light therapy is an effective treatment for SAD because of wide methodological variation between studies.

NICE concluded that there was little evidence for the efficacy of light therapy but nevertheless recommended it as an alternative to antidepressant treatment for SAD patients.[4]

The BAP guideline concluded that there was evidence of short-term benefit and recommended light therapy as a first-line treatment for SAD, but cautioned that effective prophylaxis against relapse was then needed, including consideration of an antidepressant.[5]

The mechanism of action of light therapy is unclear. It has been suggested that it may restore disordered circadian rhythms or have a direct effect on neurotransmitters e.g. serotonin.[2]

A recent paper suggested that the sedentary nature of general practice may have a detrimental effect on GPs' mental health.[6] Those of you who, like me, work in a gloomy consulting room without adequate natural light may also be at increased risk of SAD.

Light boxes are not available on the NHS and cost around £200.[2] Should we and our patients invest in them? For patients with SAD of mild to moderate severity, I think it is reasonable to suggest light therapy as a first-line treatment option, providing they do not have retinal disease. For those with moderate to severe SAD, I agree with the DTB that antidepressants should be first-line treatment with the option of add-on light therapy.[2]

I do not think that we should advocate light therapy for nonseasonal depression on the basis of a single study, but it may be worth considering as an add-on treatment particularly for those with sleep disturbance.

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