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Light therapy and fluoxetine both work in seasonal affective disorder

Research question Which is the better treatment for seasonal affective disorder, fluoxetine or light therapy?

Answer They both work equally well, although light therapy works slightly faster.

Why did the authors do the study? Both antidepressants and light therapy work better than a placebo for patients with seasonal affective disorder. But it's unclear how they compare with each other. These authors wanted to find out by comparing the two treatments head to head. They also wanted to find out how light therapy performs in the medium term; previous trials lasted no more than five weeks.

What did they do? 96 Canadian adults took part in a randomised controlled trial. All had moderate or severe major depression with a strong seasonal component (seasonal affective disorder). They were untreated when they entered the trial, which was conducted over winter. For eight weeks, 48 participants had light therapy each morning plus a placebo pill; the other 48 had fluoxetine 20 mg daily plus placebo light therapy. Active light therapy was a light box emitting 10 000 lux. Placebo therapy was an identical box emitting only 100 lux. The trial was carefully double blinded.

The authors assessed the participants four times during the eight weeks. They looked for a response to treatment, defined as a reduction of at least 50% on the 24 item Hamilton depression scale. They also looked for remission, defined as a clinical response plus a score of 8 or less. Patients rated their own symptoms using the Beck depression inventory and were prompted to report any side effects. The authors used intention to treat analysis to compare the two treatment groups.

What did they find? Both treatments worked equally well. Two thirds of the participants in each group responded to treatment (67%), and about half in each group went in to remission. Those treated with light therapy improved slightly faster during the first week, but the fluoxetine group had caught up by week 2.

Participants who took fluoxetine reported significantly more agitation (12.5% *v* 0%), sleep disturbance (29% *v* 2%), and palpitations (10.5% *v* 0%) than those treated with light therapy. But there were similar numbers of dropouts in each group and similar numbers reporting at least one severe side effect (33% for bright light and 35% for fluoxetine).

What does it mean? Light therapy or 20 mg a day of fluoxetine seemed to work equally well in this study, which was big enough and powerful enough to detect any clinically meaningful differences between the treatments. Fluoxetine worked a little slower during the first week and was associated with a higher risk of some side effects but not others. Overall, about three quarters of the participants in both groups reported at least one side effect. As both treatments have already been tested against a placebo and found to work, the authors think it's now reasonable to offer either therapy as a first line treatment to patients with seasonal affective disorder. The choice is largely up to them.

Lam RW et al. The Can-SAD study: a randomized controlled trial of the effectiveness of light therapy and fluoxetine in patients with winter seasonal affective disorder. *Am J Psychiatry* 2006;163:805-12

Editor's choice

Intelligent analysis

The *BMJ*'s shortcuts (p 1327) are our look at the research papers in the other big general journals. From this week on we are offering another view through Richard Lehman's blog on bmj.com (bmj.com/cgi/content/full/332/7553/DC1). Richard Lehman is an Oxfordshire general practitioner who started writing a weekly review of *JAMA*, the *Lancet*, *New England Journal of Medicine*, and the *BMJ* for a few friends; the circulation then grew to the primary care department at Oxford University and beyond. We've been enjoying his review in the *BMJ*'s office for some time, and we thought our readers might too.

Richard puts in as many "tempters" for journal papers as he can manage on two sides of A4: "I regard them more as an illustration of my view of the medical humanities than evidence based medicine." And he tries to find space for a filler, often on plants, but he promises proverbs, poems, and recipes.

When he comes to review this week's *BMJ* Richard will probably include the papers on the effectiveness of prehospital parenteral antibiotics for suspected meningitis. The first, a case-control study by Anthony Harnden and colleagues (p 1295), showed that administration of parenteral penicillin by general practitioners was associated with an increased odds ratio for death; the second, a systematic review of observational studies by Susan Hahné and colleagues (p 1299), showed that the association between parenteral antibiotics and outcome was inconsistent. All authors conclude that confounding by severity is the most likely explanation for these counterintuitive results. The strength of the first study, says editorialist Duncan Keeley (p 1283), is that it restricts the analysis to children in whom the diagnosis was made by the GP (the study's statistician explains what a difference that makes on p1297). Keeley concludes that GPs probably shouldn't change their practice with respect to prehospital parenteral penicillin, but he speculates that detecting and doing something about hypovolaemic shock while getting the child to hospital fast may be more important for improving survival.

We might look back in 10 years' time and wonder what the fuss about COX 2 inhibitors was all about. The meta-analysis of randomised trials of COX 2 inhibitors and NSAIDs by Patricia Kearney and colleagues (p 1302) confirms that selective COX 2 inhibitors are associated with a moderately increased risk of vascular events (mainly due to myocardial infarction), as are high dose regimens of diclofenac and ibuprofen but not high dose naproxen. In their editorial on life without COX 2 inhibitors Shaughnessy and Gordon (p 1287) conclude that we probably haven't "lost a truly superior option."

Elsewhere in this week's issue is evidence that cardiologists provide the best care for patients with myocardial infarction, though for less ill patients (p 1306), and that commercial weight loss programmes do work (p 1309). And readers who are stung by the accusation of Darwinist Richard Dawkins that they "are a bit undereducated in Darwinism" (p 1294) might learn something from Paul Brown's light-hearted letter on unintelligent design (p 1341).

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