

# Therapeutics

## Exercise was more effective in the long term than sertraline or exercise plus sertraline for major depression in older adults

Babyak M, Blumenthal JA, Herman S, et al. *Exercise treatment for major depression: maintenance of therapeutic benefit at 10 months.* *Psychosom Med* 2000 Sep-Oct;62:633–8.

**QUESTION:** Does the therapeutic effect of exercise in older adults with major depression (MD) continue after the intervention period ends?

### Design

Randomised {allocation concealed\*}†, blinded {outcome assessors\*}‡, controlled trial with 10 months of follow up.

### Setting

A clinical centre in North Carolina, USA.

### Patients

156 adults who were {50–77 years of age (mean age 57 y, 72% women)}‡, met *DSM-IV* criteria for MD, and scored  $\geq 13$  on the Hamilton Depression Rating Scale (HDRS). Exclusion criteria were current use of antidepressants, contraindications to exercise or study drugs, current substance abuse, primary axis I psychiatric diagnosis other than MD, high suicide risk, initiation of psychotherapy in previous year, or current regular aerobic exercise. Follow up was 85% at 10 months.

### Intervention

Adults were allocated to exercise {n=53}‡, sertraline {n=48}‡, or exercise plus sertraline {n=55}‡ for 4 months. Exercise consisted of 3 supervised 45 minute exercise sessions per week for 16 consecutive weeks. Sertraline was begun at 50 mg/day and titrated up to 200 mg/day.

### Main outcome measures

Rates of remission (no MD according to *DSM-IV* criteria and HDRS score  $< 8$ ) and depression (MD according to *DSM-IV* criteria or HDRS score  $> 7$ ).

### Main results

Analysis was by intention to treat. Groups did not differ for remission rates at 4 months ( $p=0.89$ ) or for self reported depressive symptoms at 10 months ( $p=0.13$ ). Depression rates were lower in the exercise group than in the sertraline and sertraline plus exercise groups ( $p=0.028$ ) (table).

### Conclusions

In older patients with major depression, the therapeutic benefit of exercise continued after the intervention period ended. Depression rates at 10 months were lower for exercise than for sertraline or sertraline plus exercise.

\*See glossary.

†Information provided by author.

‡Blumenthal JA, Babyak MA, Moore KA, et al. Effects of exercise training on older patients with major depression. *Arch Intern Med* 1999;159:2349–56.

*Exercise (Ex) v sertraline (Sert) or Sert plus Ex for major depression at 10 months*§

Outcome	Comparison	Event rates	RRR (95% CI)	NNT (CI)
Depression rates¶	Ex v Sert	30% v 52%	42% (6.4 to 65)	5 (3 to 39)
	Ex v Sert + Ex	30% v 55%	45% (13 to 66)	5 (3 to 18)

§Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.

¶Met *DSM-IV* criteria for major depression or had Hamilton Depression Rating Scale score  $> 7$ .

### COMMENTARY

This interesting study by Babyak *et al* adds to the growing evidence for the potentially beneficial effect of regular exercise on mood states. The participants were not a random sample of depressed people, and the conclusions cannot be generalised to all other depressed people. Apart from the use of a self selected population, the other methodological concern is the use of both *DSM-IV* and the HDRS in identifying levels of depression. The former gives a categorical index, whereas the latter provides a continuous measure. The authors' presentation is somewhat confusing in that they sometimes use the *DSM-IV* criteria and sometimes the HDRS. The results appear, however, to be robust. The self selection of participants probably explains the unexpected finding that the combined treatment was no better than medication alone. The authors rightly point out that attitudinal factors were probably at work. This finding suggests that exercise could well be added to the behavioural strategies in cognitively orientated behavioural therapies for depressive conditions. Of particular interest is the observation that after the treatment period a positive relation existed between the report of the amount of continued exercise and a reduction in depressive symptoms, irrespective of the original treatment group. Each 50 minute period of exercise decreased by one half the odds of being classified as depressed. In the absence of any independent validation of post-treatment exercise, this conclusion must be treated with caution.

With respect to clinical practice, this study suggests that depressed patients  $> 50$  years of age who are reluctant to take medication could be encouraged to engage in regular exercise—45 minutes 3 times a week is not a lot. Confirmation of these conclusions from a randomised controlled trial in unselected adults would be necessary, but interpretation of such a study would be confounded by the importance of patients' attitudes towards treatment. This study suggests that if they do not want it, it probably will not work effectively.

Wilfrid Hume, PhD, MPH  
Leeds Community NHS Trust  
Leeds, UK

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For correspondence:  
Dr J A Blumenthal,  
Department of Psychiatry and Behavioral Sciences,  
Box 3119, Duke University Medical Center, Durham, NC 27710, USA. Fax +1 919 684 8629.