

Antidepressants versus running for depression: is there a winner?

- *First trial to directly compare effects of treatments on mental and physical health shows clear benefits of exercise, and slight physical worsening with antidepressants. But can patients stick to the exercise?*

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- *Type of work: peer-reviewed/experimental study/people*

The first study to compare effects of antidepressants with running exercises for anxiety, depression and overall health shows that they have about the same benefits for mental health – but a 16-week course of running over the same period scores higher in terms of physical health improvement, whereas antidepressants lead to a slightly worse physical condition, as has been suggested by previous studies. However, the drop-out rate was much higher in the group which initially chose exercise.

Professor Brenda Penninx (Vrije University, Amsterdam) presented the work at the ECNP conference in Barcelona (after recent publication in the *Journal of Affective Disorders*¹) saying:

“We wanted to compare how exercise or antidepressants affect your general health, not just your mental health”.

The researchers studied 141 patients with depression and/or anxiety. They were offered a choice of treatment; SSRI antidepressants for 16 weeks, or group-based running therapy for 16 weeks. 45 chose antidepressants, with 96 participating in running. The members of the group which chose antidepressants were slightly more depressed than the members of the group which chose to take running.

Professor Penninx said “This study gave anxious and depressed people a real-life choice, medication or exercise. Interestingly, the majority opted for exercise, which led to the numbers in the running group being larger than in the medication group”.

Treatment with antidepressants required patients to adhere to their prescribed medication intake but this generally does not directly impact on daily behaviours. In contrast, exercise directly addresses the sedentary lifestyle often found in patients with depressive and anxiety disorders by encouraging persons to go outside, set personal goals, improve their fitness and participate in a group activity.

The antidepressant group took the SSRI Escitalopram for 16 weeks. The running group aimed for two to three closely supervised 45-minute group sessions per week (over 16 weeks). The adherence to the protocol was lower in the running group (52%) than in the antidepressant group (82%), despite the initial preference for running over antidepressants.

At the end of the trial, around 44% % in both groups showed an improvement in depression and anxiety, however the running group also showed improvements in weight, waist circumference, blood pressure, and heart function, whereas the

antidepressant group showed a tendency towards a slight deterioration in these metabolic markers.

Brenda Penninx said;

“Both interventions helped with the depression to around the same extent. Antidepressants generally had worse impact on body weight, heart rate variability and blood pressure, whereas running therapy led to improved effect on general fitness and heart rate for instance. We are currently looking in more detail for effects on biological aging and processes of inflammation’.

It is important to say that there is room for both therapies in care for depression. The study shows that lots of people like the idea of exercising, but it can be difficult to carry this through, even though the benefits are significant. We found that most people are compliant in taking antidepressants, whereas around half of the running group adhered to the two-times-a-week exercise therapy. Telling patients to go run is not enough. Changing physical activity behaviour will require adequate supervision and encouragement as we did by implementing exercise therapy in a mental health care institution”.

She added:

“Antidepressants are generally safe and effective. They work for most people. We know that not treating depression at all leads to worse outcomes; so antidepressants are generally a good choice. Nevertheless, we need to extend our treatment arsenal as not all patients respond to antidepressants or are willing to take them. Our results suggest that implementing exercise therapy is something we should take much more seriously, as it could be a good – and maybe even better – choice for some of our patients.

In addition, let’s also face potential side effects our treatments can have. Doctors should be aware of the dysregulation in nervous system activity that certain antidepressants can cause, especially in patients who already have heart problems. This also provides an argument to seriously consider tapering and discontinuing antidepressants when depressed or anxious episodes have remitted. In the end, patients are only truly helped when we are improving their mental health without unnecessarily worsening their physical health”.

This is adapted from a commentary recently published in the journal *European Neuropsychopharmacology*².

Commenting, Dr Eric Ruhe (Amsterdam University Medical Centres) said: *“These are very interesting results that again show that physical health can influence mental health and that treatment of depression and anxiety can be achieved by exercising, obviously without the adverse effects of antidepressant drugs. However, several remarks are important. First the patients followed their preference, which is common practice, but ideally we should advise patients what will work best. Following this choice is understandable from a pragmatic point of view when patients have strong preferences, which you have to take into account when doing a study like this. The downside is that the comparisons between groups might be biased compared to doing*

this in a truly randomized study. For example, patients in the antidepressant group were more depressed which might be associated with less chance of persisting engagement in the exercises. So, we have to be careful not to overinterpret the comparisons between groups, which the authors acknowledge properly. Finally, a very important finding is the difference in adherence between the interventions: 52% in the exercise group and 82% in the antidepressant group. This shows that it is more difficult to change a lifestyle habit than taking a pill. This is not exclusively found in psychiatry, indicating that we also have to focus on how to improve compliance to healthy behaviour. This could have tremendous impact on healthcare more generally, but also on psychiatric diseases”.

See conference abstract “Medication and lifestyle interventions in regulating immune function and mental health” at <https://tinyurl.com/ysy3bxzu>

Notes

*1 Antidepressants or running therapy: Comparing effects on mental and physical health in patients with depression and anxiety disorders, Josine E. Verhoeven et al *Journal of Affective Disorders* 329 (2023) 19–29*

2 Awareness of cardiac autonomic dysregulation by antidepressants, Brenda WJH Penninx, European Neuropsychopharmacology (in press)

This work is presented at the 36th ECNP Congress, which takes place in Barcelona and online on 7-10 October 2023, see <https://www.ecnp.eu/Congress2023/ECNPcongress>. With more than 6,000 participants the ECNP Congress is Europe’s leading platform for the latest research in disease-related neuroscience.

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Notes for Editors

Please mention the European College of Neuropsychopharmacology in any article resulting from this press release.

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