

## Exercise Gains Momentum as Psychiatric Treatment

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SAN DIEGO, California – The benefits of exercise in nearly every aspect of physical health are well known, but evidence in recent years suggests a unique effect on some psychiatric disorders, prompting mental health clinicians to rethink treatment strategies and to consider the possibility of exercise not just in therapy but as therapy.

"Above and beyond the standard benefits of exercise in healthy living and general well-being, there is strong evidence demonstrating the ability of exercise to in fact treat mental illness and have significant benefits on a neurotrophic, neurobiologic basis," Douglas Noordsy, MD, told delegates attending Psych Congress 2012: US Psychiatric and Mental Health Congress.

Some of the strongest evidence is seen in depression, where psychiatric benefits from exercise have been shown in some cases to match those achieved with pharmacologic interventions and to persist to prevent remission in the long term.

Dr. Noordsy referenced a study from researchers at Duke University in which 156 patients with major depressive disorder (MDD) were randomly assigned either to aerobic exercise, sertraline therapy (50 mg to 200 mg), or both for 4 months.

The difference in remission rates in the exercise and selective serotonin reuptake inhibitor (SSRI) groups after 4 months were not significant – 60% and 69%, respectively, but at a 10-month follow-up, the exercise group showed a significantly lower relapse rate ( $P = .01$ ) (*Psychosom Med* 2000;62:633-638).

"The patients who were independently exercising on their own after the treatment period had half the odds for meeting the depression criteria 6 months later compared to patients who didn't exercise after the 4-month study," said Dr. Noordsy, an associate professor and director of psychosis services at the Geisel School of Medicine at Dartmouth College, in Hanover, New Hampshire.

A similar study from the same group of researchers 10 years later in a larger sample involving 202 patients assigned to supervised exercise, sertraline therapy (50 mg to 200 mg) or placebo showed remission rates of 46% at 4 months and 66% at the 16-month follow-up across both treatment groups, with no significant greater improvement with SSRIs compared with exercise in predicting MDD remission at 1 year (*Psychosom Med* 2011 Feb-Mar;73:127-33; epub 2010 Dec 10).

Other studies have shown equally impressive results in exercise for a variety of populations, including pregnant women with depression, who have a high interest in avoiding medications, people with HIV, and even patients with heart failure, who showed not only a significant reduction in depression related to exercise but also reduced mortality (*Am J Cardiol* 2011;107:64-68).

### Anxiety

The evidence in relation to anxiety, although not as strong, still suggests a benefit, and the rigors of a cardiovascular workout seem particularly suited to addressing the physiologic effects associated with anxiety, Dr. Noordsy said.

"We know that with anxiety, the heart rate goes up, you start breathing fast, and it kind of snowballs with more anxiety, and that can trigger a panic attack," he explained.

"So one of the important positive effects of physical exercise is it allows people to become conditioned to having their

heart rate and respiratory rate increase when they're *not* associated with anxiety, thereby addressing the triggers."

Evidence is somewhat lacking in the area of bipolar disorder, but patients often have symptoms similar enough to depression to suggest a benefit, Dr. Noordsy said.

"The evidence on depression in bipolar disorder is strong enough that I certainly feel comfortable in talking about exercise as part of [bipolar patients'] management."

In terms of more serious psychotic disorders such as schizophrenia, evidence is limited on benefits of exercise for the core symptoms of psychosis or cognition. However, several studies have shown improvement in comorbidities and metabolic issues related to antipsychotics that such patients commonly face.

One study of a jogging intervention among 80 inpatients with chronic schizophrenia, in which 40 patients jogged for 40 minutes 3 times a week, depression, anxiety, phobia, and obsessive-compulsive behaviors declined significantly compared with 40 inpatient control participants who were inactive and showed no improvement.

### **Dementia Prevention**

The evidence on the benefits of exercise in cognitive function disorders, such as dementia and Alzheimer's disease, is much more extensive, with as many as 8 strong studies on dementia alone in the last 3 years showing improvements with activities such as walking and strength training on memory and executive function.

Dr. Noordsy noted one particularly remarkable study in which researchers compared patients with and without the ApoE gene, which is linked strongly to late-onset Alzheimer's disease.

In the study, patients who were ApoE-negative showed similarly low mean cortical binding potential, related to plaque buildup in the brain, regardless of whether they exercised or not.

But although ApoE-positive individuals (n = 39) had values that were substantially higher, the ApoE-positive patients who exercised (n = 13) had values similar to those who did not carry the gene (*Arch Neurol* 2012;69:636-643).

"You could look at these results and rightfully say physical exercise neutralizes your risk for developing Alzheimer's disease if you're ApoE positive," Dr. Noordsy said.

### **How to Get Patients Moving**

Perhaps the biggest caveat with all mental health conditions is how to motivate patients who are struggling with psychiatric disorders to exercise.

Dr. Noordsy offered some key suggestions:

- Start with an assessment: "I start with an assessment of lifetime history of activity and current activity in my baseline assessment template," Dr. Noordsy said. "I educate the patient on the potential effects of exercise on their disorder and how it fits on the menu of other treatment options."
- Make clear recommendations: "There is a lot of evidence in areas such as smoking cessation and in the addiction literature showing that a substantial subset of people will respond to very clear recommendations," he said.
- Offer motivational tools: A behavioral planner, for instance, that allows for goal setting, or connecting a patient with an exercise group can be helpful.
- Consider the patient's current activity capacity in recommending a regimen: "The general amount of exercise believed to result in a benefit is about 30 to 60 minutes per day, between 3 and 7 days per week." Some

studies have shown strength training to be as beneficial as aerobic activity. For the latter, Dr. Noordsy suggested that one easy method often used in determining maximum heart rate, in general, for people without heart disease or other conditions is to simply subtract their age from 220.

- Help the patient find an activity that works best for them, rather than recommending anything specific, Dr. Noordsy suggested. "Have the patient choose the activity that is right for them."
- Help guide the patient to educational resources, such as information sources or books. "The book I've used the most with patients is John Ratey's *Spark: The Revolutionary New Science of Exercise and the Brain*," Dr. Noordsy recommended. "The book is very scientific and accessible to a lay audience," he said.

Importantly, discussing the role of exercise in the context of human evolution might be a more effective approach with patients than the standard recommendation to get some exercise.

"Instead of 'this is something you ought to be doing,' we might instead say, 'this is something humans are designed to do, and when we don't do it, our bodies and brains fall apart'."

Another important component in helping patients benefit from exercise is simply to improve awareness among clinicians, Dr. Noordsy added.

"We see evidence on the benefits of exercise for psychiatric conditions coming together, and there is a need to increase awareness of this among clinicians as well as reinforce the research community to be taking a more careful look at physical exercise," he said.

"This may not have as much of an industrial backing as some of the other interventions we use, but I think it's quite exciting."

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