THE EFFECTIVENESS OF USING EXERCISE TO Treat DEPRESSION

by

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February 28, 2007 (Revised April 23, 2007)
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Introduction

Depression has become a common medical issue in the United States, but conventional treatments generally have not been successful in preventing recurrence of this mental illness. Approximately seven percent of the adult population in this country is afflicted with major depressive disorder (MDD), which represents the country’s leading cause of disability for ages 15 through 44 (National Institute of Mental Health [NIMH], 2006). MDD affects individuals of all ages, though the median age of onset is 32 and the disease is more prevalent among women than men (NIMH, 2006).

Conventional treatments for depression generally include medications, psychotherapy, and/or problem-solving skills training. While these treatments can be quite effective in the long-term, depending on individual circumstances, supplemental treatments are called for by the high rate of recurrence. Additionally, conventional treatments can take weeks, even months, to render a beneficial effect, leaving short-term treatment nonexistent without another approach. Side effects of antidepressant medications are a further concern, based on individual physical and mental health status.

Exercise can provide a viable treatment option for depressed individuals, whether as an alternative treatment strategy to conventional treatments or as a supplemental strategy, either in the short-term or long-term. Research to date, while limited in some instances by low numbers and study design issues, almost universally supports the use of exercise in some form as a positive treatment option for individuals suffering from mild, moderate, or major depression. While further research on the effectiveness of exercise as a depression treatment protocol is
indicated, the implication of research to date is an undeniable call for incorporation of exercise prescription into any depression treatment regimen, subject to individual evaluation.

*Depression*

While a number of depression measures exist to clinically diagnose the illness within psychiatric and psychological circles, perhaps the most commonly accepted is the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), which utilizes specific diagnostic criteria to define depression (NIMH, 2006). Among the common depressive symptoms are a depressed mood almost throughout each day, suicidal thoughts or attempts, insomnia, significant weight loss or gain without purposeful effort, low energy or fatigue, inability to remember or concentrate, decreased appetite, diminished interest in everyday pleasurable activities, feelings of worthlessness, and loss of sexual interest (Blumenthal et al., 1999).

Frequently depression goes undiagnosed, as individuals may hide their illness with drugs or alcohol. Depression can also be closely associated with anxiety, low self-esteem, and other psychological conditions (Blumenthal et al., 1999).

*Conventional Treatments for Depression*

A number of different medications are commonly used to treat depression, but the side effects can be significant. Antidepressants prescribed most often are in a medication class called selective serotonin reuptake inhibitors (SSRIs), which include the following side effects: nausea, diarrhea or constipation, insomnia or tiredness, anxiety or nervousness, sexual problems, and dry mouth (NIMH, 2000). Other medication classes include tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs), which include the same side effects as SSRIs, along with significantly increased blood pressure and risk of stroke if certain foods are not avoided (NIMH, 2000).
Nonmedication treatments reflecting positive treatment results include certain herbal remedies, psychotherapeutic counseling, and training in problem-solving skills, although research studies on these treatments are incomplete at best (NIMH, 2000). Unfortunately, studies of nonmedication treatments are limited by the danger of withholding medication for study purposes – a tactic that could result in study participant suicide attempts. High recurrence rates of depression leads to the conclusion that most conventional treatments represent only partially effective solutions to the disease (Trivedi, Greer, Grassmann, Chambliss, & Jordan, 2006).

*Exercise as Treatment for Depression*

Exercise has been shown in a number of studies to prove beneficial in the treatment of depression or depressive symptoms. Further, exercise has many positive, and very few negative, side effects from a health standpoint and generally represents a very inexpensive treatment option. In the context of treating adult depression or its symptoms, little difference exists between anaerobic and aerobic exercise programs (Smith, 2006), and the flexibility to engage in a variety of exercises tailored to individual desires is almost limitless.

Bartholomew, Morrison, & Ciccolo (2005) showed that a single incidence of exercise can have a positive effect on mood in the short-term for patients with major depressive disorder (MDD), a significant result given the delay in the effectiveness of medication or psychotherapy options. Dunn, Trivedi, Kampert, Clark, & Chambliss (2005) found that maintaining the intensity and frequency of exercise recommended by most public health agencies (i.e., at least three days a week for at least thirty minutes a day) was sufficient to provide a significant reduction in MDD symptoms. Harris, Cronkite, & Moos (2006) conducted a 10-year study of over 400 depression inpatients and found that physical activity is associated both with less depression and also with a reduction in other physiological problems and life stressors. Trivedi et
al. (2006) noted that exercise can serve as a valuable strategy of augmentation to antidepressant medication treatment in the reduction of depressive symptoms. Blumenthal et al. (1999) studied the effects of exercise and medication in the treatment of MDD, concluding that exercise was just as effective as medication. Babyak et al. (2000), in a follow-up study, further concluded that exercise was more effective than medication in preventing relapse of the disease.

Berlin, Kop, & Deuster (2006) reversed the process and studied the impact of exercise withdrawal, discovering that such action resulted in significantly higher depressive moods, fatigue, and sadness than if exercise were continued. Singh, Clements, & Singh (2001) noted, however, a continued antidepressant effect of exercise even when supervised exercise was changed to unsupervised (i.e., self-directed) exercise. Ernst, Olson, Pinel, Lam, & Christie (2006), seeking an explanation for the benefits of exercise on depression, concluded that, similar to the impact of antidepressant medications on the adult hippocampus, exercise causes neurogenesis through the enhancement of four molecules (including endorphins), counteracting the impact of MDD.

Studies in other parts of the world confirmed the positive benefits of exercise in treating depression or its symptoms, including Australia (Sims, Hill, Davidson, Gunn, & Huang, 2006), Finland (Women of Diversity Productions, 2002), Germany (Knubben et al., 2007), Hong Kong (Tsang, Fung, Chan, Grace, & Chan, 2006), Hungary (Piko & Keresztes, 2006), Norway (Bodin & Martinsen, 2004), and Thailand (Nabkasorn et al., 2006).

Sims et al. (2006) noted a significant reduction in depressive symptoms over a ten-week period among elderly participants in an exercise program. Women of Diversity Productions (2002), after an eight-year study of 663 elderly participants, concluded that regular physical activity both reduced depressive symptoms and also enhanced self-esteem, regardless of gender.
Knubben et al. (2007) noted a symptomatic decline in adult depressed patients at a university hospital who engaged in a short, ten-day exercise program. Tsang et al. (2006) studied the effectiveness of a qigong exercise program on depressive symptoms in the elderly, noting significantly reduced symptoms and improved self-confidence in the exercise group versus the control group – even when participants were switched between the two groups. Piko & Keresztes (2006) concluded that physical activity among students aged 14 through 21 enhanced self-image and fitness, while reducing depressive symptoms. Bodin & Martinsen (2004) found that stationary bike and martial arts exercises were valuable in improving adult mood and mental healing. Nabkasorn et al. (2006) noted that mild jogging exercise was effective in decreasing depressive symptoms among young adult females.

The additional benefits of exercise to individuals suffering from depression include reduced moodiness, better attitude, improved outlook, increased self-confidence, and enhanced mental well-being (Kull, 2002). An increased level of coping self-efficacy (i.e., confidence to handle a challenge) is a further benefit of exercise for depressed individuals (Craft, 2005). Well-documented physiological benefits can be realized from exercise, as well, including cardiovascular improvement, musculoskeletal gains, and improved flexibility and balance (Chodzko-Zajko, 1998).

Implications and Conclusions

While further studies are implicated based on certain limitations in studies to date, the benefits of exercise are undeniable and should be incorporated into any depression treatment plan. No one plan will work for every patient, so practitioners must tailor exercise treatment to overcome barriers to exercise (e.g., intimidation or cost), account for physical limitations, and develop strategies for successful compliance by the patient (e.g., setting reasonable goals and
preparing for setbacks or obstacles) (Pollock, 2001). Consideration of individual life events and environmental issues is also important in the incorporation of exercise into a treatment plan for depression (Faulkner & Biddle, 2004).

Whether exercise is used as a first-line treatment or supplemental to medication or psychotherapy, patients have virtually nothing to lose and much to gain from adopting an exercise approach to dealing with depression or its symptoms. The goal should be a treatment regimen to reduce depressive symptoms and increase self-worth and energy, with adherence by the patient for the continuity of benefits to overall health and wellness.
References


6 references listed here that are not cited in the paper.


