

# Exercise as a Treatment for Depression in New Mothers: It's as Effective as Medications

Kathleen Kendall-Tackett, Ph.D., IBCLC

A growing body of research indicates that exercise is an effective treatment for depression and is comparable medications. Traditionally, exercise has been recommended for people with mild-to-moderate depression. But as two clinical trials have found, exercise can alleviate major depression as effectively as medications. Exercise can also be safely combined with other modalities.

## Exercise for Depressed People

Several recent studies have demonstrated that exercise improves mood. Many of these studies are of older adults, who are sometimes at higher risk for depression. Medications can be difficult to manage for this population, as they are frequently taking more than one. So exercise is a good alternative.

In a large population study from Finland (N=3,403), exercise lowered depression, and helped with feelings of anger, distrust and stress. Two to three times a week was enough to achieve this mood-altering effect (Hassmen et al. 2000). Men and women who exercised perceived their health and fitness as better than non-exercisers. Exercise also increased participants' social connections with others.

In a sample of 32 older adults (ages 60 to 84 years), subjects were randomized to one of two conditions; 10 weeks of supervised weight-lifting exercise followed by 10 weeks of unsupervised exercise; or attending lectures for 10 weeks (Singh et al., 2001). The patients all had major or minor depression and the researchers did not contact any study participant until the end of the research period at 26 months. As predicted, the exercise group was significantly less depressed at 20 weeks, and at follow-up at 26 months, than the non-exercisers. Moreover, at the 26-month follow-up, 33% of the exercisers were still regularly weight lifting vs. 0% of the controls.

In a similar study, older adults were randomly assigned to either exercise classes or health education for 10 weeks (Mather et al., 2002). All participants were depressed and on medications, but medications were not adequately controlling their depression. At the end of treatment, 55% of the exercise group was less depressed vs. 33% of the education group.

Most of the participants in the previously cited studies had mild-to-moderate depression. Babyak et al.'s (2000) study demonstrated that exercise can be helpful for major depression as well. In this clinical trial, depressed older adults were randomly assigned to one of three groups: exercise alone; Zoloft (sertraline) alone; or a combination of exercise and sertraline. After four months, all the patients improved, and there were no differences between the groups. People in the exercise-only group did as well as people in the two medication groups. In addition, people in the exercise-only group were significantly less likely to relapse. Six months after completion of treatment, 28% of the exercise-only group became depressed again vs. 51% of the medications-only and medications-exercise groups. The authors concluded that exercise is an effective intervention, even in patients with major depression. Moreover, exercise helps prevent relapse.

This same group of researchers recently replicated their findings (Blumenthal et al., 2007). In the more recent study, 202 adults with major depression were randomized to one of four conditions: sertraline, exercise at home, supervised exercise, or a placebo control. After four months of treatment, 41% of the patients were in remission and no longer met the criteria for major depression. Efficacy rates by treatment were as follows: supervised exercise=45%, home-based exercise=40%, medication=47%, and placebo=31%. The exercise condition was 45 minutes of walking on a treadmill at 70% to 85% maximum heart rate capacity, three times a week, for 16 weeks. The home-exercise group received the same instructions, but was not supervised and had minimal contact with the research staff. The authors concluded that exercise was as effective as medications. The supervised program was especially effective, but the home program was also comparable to medications. And all treatments were more effective than the placebo.

The mood-altering effects of exercise appear fairly quickly. In a study of 26 women, Lane and colleagues (2002) measured anger, confusion, depression, fatigue, tension and vigor before and after two exercise sessions. The women's moods significantly improved after each exercise session. Depressed mood was especially sensitive to exercise and decreased significantly after each session.



## Exercise to Achieve an Antidepressant Effect

	For mild-to-moderate depression	For major depression
<b>Frequency</b>	2 to 3 times a week	3 to 5 times a week
<b>Intensity</b>	moderate	60% to 85% maximum capacity
<b>Duration</b>	20 to 30 minutes	45 to 60 minutes

### Exercise and Breastfeeding

As the above-cited studies indicate, exercise is helpful in treating depression. Yet mothers may be concerned that it will negatively impact breastfeeding. Only a few studies have specifically addressed this topic. These studies have generally observed that exercise had no negative effects on breastfeeding. For example, a recent Cochrane Review found that neither diet nor exercise for weight loss appeared to impact breastfeeding adversely (Amorin, Linne, & Lourenco, 2007). However, the authors noted that there was very little research on this topic, and that more information was needed before they could say that for certain.

In a qualitative study, six Australian mothers perceived that exercise had reduced their milk supply, although this was not independently confirmed (Rich et al., 2004). These same women reported that exercise reduced their stress, improved weight control and energy, and enhanced the mother-child relationship. Another Australian study (Su et al., 2007) examined the relationship between mothers' exercise, initiation and duration of breastfeeding, and exercise's effect on infant growth. The participants were 587 mothers recruited at birth. Mothers were interviewed seven times over a period of 12 months. At 6 to 12 months, exercise had not decreased breastfeeding duration. At 12 months, exercise had no significant impact on infants' growth. This applied to both women who were fully breastfeeding, and those who did "any" amount of breastfeeding. The researchers concluded that their study should reassure health care providers that exercise while breastfeeding is safe and important for maintaining health.

Those studies demonstrate that exercise is generally safe for breastfeeding mothers. A more specific question regarding exercise and breastfeeding has to do with lactic acid. Does exercise cause lactic acid to build up in mothers' milk so that babies won't breastfeed or refuse to take it? A study of 12 lactating women sought to answer this question (Quinn & Carey, 1999). In this study, milk and blood samples were taken after a non-exercise session (control), after maximal exercise, and after a session that was 20% below the maximal range. They found that in women with an adequate maternal caloric intake, moderate exercise did

not increase lactic acid in breast milk nor cause babies to reject it. When women exercised in the "hard" range (using the perceived-exertion scale), lactic acid increased. The authors recommended exercise in a moderate range because it neither increases lactic acid accumulation in the breast milk nor alters babies' willingness to breastfeed.

### Summary

In summary, exercise is a highly effective treatment for depression—alone or in combination with other treatments. It appears to have no negative effect on breastfeeding. And it can be a viable alternative treatment for mothers who don't want to take medications.



The one challenge with exercise is doing it. When people are depressed, it is probably the last thing they feel like doing. But they may be motivated to try when they realize it's an effective alternative to medications. Blumenthal et al.'s (2007) found a slightly higher remission rate in the supervised vs. at-home exercise groups, likely because compliance rates were higher. A similar approach, perhaps involving a mothers' exercise group, may be useful for mothers who want to give this modality a try. Exercise in a group setting may also provide another useful function: social support, which can also help prevent depression or keep it from recurring.

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*Kathleen Kendall-Tackett, Ph.D., IBCLC is a health psychologist, board-certified lactation consultant, and La Leche League Leader. She is clinical associate professor of pediatrics at Texas Tech University School of Medicine in Amarillo, Texas. For more information, visit her Web sites: [UppityScienceChick.com](http://UppityScienceChick.com) and [BreastfeedingMadeSimple.com](http://BreastfeedingMadeSimple.com).*

