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# A Workout a Day Keeps Depression Away

Hannah Voss

**Abstract:** The issue of mental health in adolescent females is vastly growing in America, especially depression. Depression is largely treated by pharmacologic therapy, but that can result in many side effects and is associated with a harsh stigma that can deter the patient from continuing their medication regimen. With this said, it remains important to look at other means to treat depression, and one of the best alternative solutions right now is exercise. This article presents research that shows how exercise can greatly improve and prevent depressive symptoms, while also decreasing the stigma associated with treating depression, particularly among adolescent females.

Across the United States, mental health is an emerging problem where 1 in 5 Americans suffer from a mental health disorder in a given year.<sup>1</sup> However, mental health in adolescent females is often overlooked. Over 3 million adolescents in the United States have suffered at least one major depressive episode.<sup>2</sup> While depression is mainly treated with pharmacologic antidepressants, psychotherapy and cognitive behavioral therapy are also common. Nevertheless, approximately 60% of adolescents who have experienced a major depressive episode do not receive treatment, reflecting the social stigma associated with more traditional treatment options.<sup>2</sup> Traditional treatment options are often perceived as abnormal and a sign of weakness, which may lead to reluctance to seek out treatment. Hence, alternative treatment options for depression must be considered, one of which is exercise. Exercise has been proven to improve depressive symptoms, reduce risk of future onset of depression, and negate the risk of side effects and social stigmas associated with traditional treatment options in adolescent females.

Research has found that physical exercise can help improve depressive symptoms in the general population, but data specific to adolescent females is limited. Researchers in a 2005 study conducted a randomized controlled trial to investigate the effects of physical exercise, specifically jogging, in adolescent females with mild to moderate depressive symptoms.<sup>3</sup> In this study, 49 female volunteers between the ages of 18-20 were randomly assigned into a group participating in an 8-week physical exercise program consisting of five 50-minute jogging sessions per week, or into a non-exercising control group that resumed normal daily activities. A CES-D scale, which measures self-reported frequency of 20 depressive symptoms, was used to monitor the effect of exercise on depressive symptoms. Following the exercise training, decreased depressive scores were reported for 8 items on the scale such as "I felt depressed", "I could not shake off the blues", and "I felt sad", revealing that exercise can significantly alleviate depressive symptoms.<sup>3</sup> Accompanying the exercise, urinary levels of the stress hormones cortisol and epinephrine were significantly reduced compared to baseline.<sup>3</sup> Overall, this study reinforced previous research suggesting that exercise can help improve depressive symptoms, further extending this finding to adolescent females specifically.

Additional research regarding the influence of exercise on female adolescent depression can be found in a 2010 study that assessed whether physical activity reduces the risk of future onset of depression.<sup>4</sup> In this study, adolescent females between the ages of 11-15 completed a modified Past Year Activity Scale, which consisted of a list of 26 physical activities. Participants were asked to specifically indicate those activities they completed more than 10 times in the past year outside of school, then were followed up for a 6-year period to assess the future risk of depression. Researchers found that for each additional physical activity component, the relative risk of depression decreased by 1% for

depressive symptoms, 8% for major or minor depression, and 16% for major depression.<sup>4</sup> These findings imply that physical activity can be beneficial for preventing future onset of depression or relapse of depressive symptoms.

As mentioned previously, 60% of adolescents who experience a major depressive episode do not receive treatment.<sup>2</sup> Thus, it is important to recognize barriers that adolescent females face when seeking out traditional depressive treatment options. One common barrier to seeking out depressive treatment is the stigma associated with not being or feeling normal, as demonstrated in a 2006 study.<sup>5</sup> This study interviewed high school sophomores who had received treatment for depression in the past, but no longer engaged in medical treatment. One 17-year old untreated female stated, "A lot of people, when they think of mental health they think you're *mental*...you have problems, and I know I don't have problems like that."<sup>5</sup> This further emphasizes the fact that many adolescents do not seek out treatment for depression due to a fear of stigmatization from society and a desire for normalcy. In addition, antidepressants can have deterring side effects, such as weight gain, blurred vision, and loss of sex drive. A 2010 study investigating adolescent attitudes and opinions about depressive treatment found that the most deterring side effect of antidepressant medications in adolescent females was weight gain.<sup>6</sup> Furthermore, antidepressants have a black box warning that they may increase the risk of suicidal thoughts and behaviors in pediatric patients and young adults less than 24 years of age.<sup>7</sup> This is concerning because using an antidepressant, which is supposed to alleviate a patient's depressive symptoms, could actually make them worse. Altogether, exercise may be a more beneficial treatment option because it allows adolescents to maintain a sense of normalcy without the added side effects of traditional treatment options.

While adolescence is the most susceptible time for depression, many adolescent females do not receive treatment due to fear of social stigmatization or side effects.<sup>6</sup> Exercise may be a potential treatment option for depression, as it has been shown to significantly alleviate depressive symptoms, reduce the risk of future onset of depression, and does not have side effects like those associated with traditional pharmacologic treatments. Further research should investigate whether the intensity of exercise plays a role in reduction of depressive symptoms and if exercise also alleviates depression in other patient populations. Nevertheless, these findings point to the significant impact that exercise has on the well being of adolescent females and the positive impacts it has on both physical and mental health.

## References

1. Learn about mental health. Center for Disease Control and Prevention. January 26, 2018. Accessed September 22, 2020. <https://www.cdc.gov/mentalhealth/learn/index.htm>
2. Major depression. National Institute of Mental Health. February 2019. Accessed September 22, 2020. <https://www.nimh.nih.gov/health/statistics/major-depression.shtml>.
3. Nabkasorn C, Miyai N, Sootmongkol A, et al. Effects of physical exercise on depression, neuroendocrine stress hormones and physiological fitness in adolescent females with depressive symptoms. *Eur J Public Health*. 2006;16(2):179-184. doi:10.1093/eurpub/cki159
4. Jerstad SJ, Boutelle KN, Ness KK, Stice E. Prospective reciprocal relations between physical activity and depression in female adolescents. *J Consult Clin Psychol*. 2010;78(2):268-272. doi: 10.1037/a0018793.
5. Wisdom JP, Clarke GN, Green CA. What teens want: barriers to seeking care for depression. *Adm Policy Ment Health*. 2006;33(2):133-145. doi:10.1007/s10488-006-0036-4
6. Bradley KL, Mcgrath PJ, Brannen CL, Bagnell AL. Adolescents' attitudes and opinions about depression treatment. *Community Ment Health J*. 2010;46(3):242-251. doi:10.1007/s10597-009-9224-5
7. Suicidality in children and adolescents being treated with antidepressant medications. U.S. Food & Drug Administration. Updated Feb. 5, 2018. Accessed March 3, 2021. <https://www.fda.gov/drugs/postmarket-drug-safety-information-patients-and-providers/suicidality-children-and-adolescents-being-treated-antidepressant-medications>