

Physical Fitness and Depression

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Clinical Question:

In patients who suffer from depression, what is the effect of exercise on mood/affect compared with the current practice of therapy and medication.

Sources of Evidence:

Balchin, R., Linde, J., Blackhurst, D., Rauch, H. L., & Schönbacher, G. (2016). Sweating away depression? The impact of intensive exercise on depression. *Journal of Affective Disorders*, 200, 218-221. doi:10.1016/j.jad.2016.04.030

Danielsson, L., Noras, A. M., Waern, M., & Carlsson, J. (2013). Exercise in the treatment of major depression: A systematic review grading the quality of evidence. *Physiotherapy Theory & Practice*, 29(8), 573-585. doi:10.3109/09593985.2013.774452

Hallgren, M., Helgadottir, B., Herring, M., Zeebari, Z., Lindefors, N., Kaldo, V., . . . Forsell, Y. (2016). Exercise and internet-based cognitive-behavioural therapy for depression: Multicentre randomized controlled trial with 12-month follow-up. *British Journal of Psychiatry*, 209(5), 414-420. doi: 10.1192/bjp.bp.115.177576

Mata, J., Thompson, R.J., Jaeggi, S.M., Buschkuhl, M., Jonides, J., & Gotlib, I.H. (2012). Walk on the bright side: physical activity and affect in major depressive disorder. *Journal Of Abnormal Psychology*, 121(2), 297-308. doi: 10.1037/n002353

Synthesis of Evidence:

Four articles were reviewed as evidence in this report. A Quasi-experimental controlled trial without randomization, a systematic review and two single random control trial studies.

The article by Balchin, Linde, Blackhurst, Rauch, Schonbacher (2016) conducted a randomized control trial. The study sample was 30 moderately depressed males that aged between 18 and 42 years old. The subjects were interviewed to determine their level of depression using the major depressive inventory. The 30 individuals were assigned to 3 random controlled groups and were assigned an exercise program that varied in intensity. The program lasted for 6 weeks in which they had to exercise 3 days a week for one hour. The results showed that high and moderate exercise improved depression levels while low intensity exercise did not benefit the individuals.

The second study by Danielsson, Noras, Waern, & Carlsson, (2013) conducted a systematic review on the connection between depression and exercise. They reviewed fourteen studies with 1,139 participants. Some of the trials were done in the US, Great Britain, Portugal, Italy, New Zealand and Denmark. The trials sought participants from the media, primary care patients and psychiatric patients. They reviewed the quality of evidence and found that exercise was an intervention in the treatment of depression but further elaborated that one must also abide by their medication regimen to see improve results in their mental status. Furthermore, exercise can vary between low and high intensity such as walking or aerobic exercise and it has to be accommodated or adjusted to the patient's needs and abilities. They also compared

exercise with other relaxation techniques such as meditation or relaxation and found no evidence that those were helpful in treating depression.

Hallgren et al. (2016) was a randomized control trial experimental study. This study was conducted to compare the effectiveness of exercise, internet-based cognitive behavioral therapy and the conventional care for depression. The study included 945 adults with mild to moderate depression between the ages of 18-71 years old. The participants were recruited from their primary healthcare providers throughout the country of Sweden. The participants were randomly assigned to three- 12-week interventions which were: Supervised group exercise, clinical-supported ICBT or the standard care by the physicians. The study concluded that exercise and internet based cognitive behavioral therapy should be used in conjunction with the standard care of treatment for mild to moderate depression.

A quasi-experimental controlled trial without randomization was conducted by Mata, Thompson, Jaeggi, Buschkuhl, Jonides, and Gotlib (2012) that examined the effect of physical activity on affect in those who suffered from major depressive disorder. To recruit participants for the study they used online advertisements such as craigslist and public bulletin boards at local agencies in the community. In the final sample they gathered 106 individuals, fifty-three of these participants were diagnosed with major depressive disorder (38 female, 15 male) and 53 were classified as healthy controls (36 female, 17 male). Each participant was given a palm pilot that prompted them eight times each day between 10 A.M. and 10 P.M. for a total of seven to eight days. The prompt asked them questions such as such as "I feel anxious right now," and then asked them to rate this on a four-point scale from "not at all" to "a great deal". To assess if physical activity had an effect on this they were asked if they were physically active, if yes, they were asked three follow up questions: (1) "How long were you active?" with options from 5 to 120 minutes; (2) "What kind of activity did you engage in?" with options of "mild activity (minimal effort; e.g., easy walking, yoga)," "moderate activity (not exhausting; e.g., fast walking, tennis)," and "strenuous activity (heartbeats rapidly; e.g., running, basketball)", and (3) "What activity did you engage in?" where - dependent on their previous answer - participants could pick from a list of mild, moderate, or strenuous. Mata et al (2012) found that those who had participated in physical activity, depressed or not, revealed a more positive affect than those who had not.

Conclusion:

All four articles indicated an increase in positive mood and affect when previously performing physical activity. The studies reviewed focused on physical activity, but it was also noted that continued therapy and adherence to pharmaceutical regimens were also required and major depression was not solved by exercise alone.

Implications for Nursing Practice:

The studies showed evidence that implementing daily physical activity resulted in a positive effect on mood for both those who suffer from major depressive disorder and not. The amount of physical exertion also made an impact on how much their moods improved; as intensity increased so did their attitudes.