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Prescribing Placebos

Kelsey Cupp

Abstract: The use of placebos in medicine is an area of ethical questioning, but we often do not consider the effect of placebos on daily life. One's preconceptions on the outcomes of exercise physically affect health. Studies show being aware of the advantages of exercise is beneficial to aspects of health such as blood pressure, blood glucose levels, and depression. This article analyzes how the placebo effect applies to exercise and how it can be taken advantage of to improve health outcomes.

The mental perception of personal health actually influences health outcomes. Interestingly, the mindset one has on exercise and its physical effects stems from the notion that exercise benefits our overall health. Exercise plays a large role in health and health care. For example, exercise may help in the prevention or treatment of diseases, such as heart disease.¹ Knowing that physical exercise will help treat some diseases benefits overall health, and part of this phenomena is credited to the placebo effect.² The term placebo refers to a "pharmacologically inert preparation prescribed more for the mental relief of the patient than for its actual effect on a disorder."³ Examples of placebo effects range from being exposed to fake poison ivy and experiencing a rash to feeling better after receiving extensive attention from your doctor. The effectiveness of a placebo is based on the mindset of outcome expectations. Taking advantage of a healthy mindset physically improves health. How can these benefits be implemented into a healthy lifestyle? The psychological effects of exercise may improve general health and both prevent and treat disease as a result of the placebo effect.

People who exercise regularly have been shown to be more energetic, and have consistently better mood and higher self-esteem than their less active counterparts.⁴ Those who are more active often describe a "feel good effect" after exercising, and the self-esteem boost stems from the idea of prioritizing one's health, which society views as favorable.⁴ Physical exercise benefits many aspects of health, whether it be aerobic exercise such as running, or strength training such as lifting weights. Some examples of positive health outcomes as a result of exercise include improving one's cholesterol profile⁵ and reducing blood pressure.¹ Exercise is also extremely beneficial in preventing the progression of high blood sugar in type 2 diabetes.⁶ Besides the clear benefit exercise has on physical health, exercise exhibits a positive placebo effect on mental and emotional wellbeing.

Exercise directly influences cognition, exerting a similar mental effect as placebos.⁷ People who participate in aerobic exercise, such as walking, display improved "control and memory, as well as enhanced spatial abilities and processing speed."⁷ Their perceptions of some treatments may affect how their brain interprets the treatment's power to ease mental conditions, such as

depression.⁸ In other words, patients' thoughts and beliefs about the treatment they undergo impacts their body and brain in a way that is significant for mental health outcomes.⁸ Prescribing exercise to patients suffering from mental illnesses, such as depression, may prove beneficial because it acts as a universal treatment without associated stigma.⁹ Studies comparing anti-depressant medications and exercise indicate that the recommended daily exercise accepted by most health organizations significantly improves clinically depressed patients. It is clear that exercise improves mood and self-confidence, but some of this effect is thought to derive from the social support network provided when exercising with others.⁹

The benefit of the placebo effect is widely accepted and is "standard in clinical drug trials to differentiate pharmaceutical effects from the placebo effect."¹⁰ Expectations that a certain behavior will have a positive or negative effect on health status is a key factor shaping mental processes in medical placebo research.¹² "The placebo effect does not have to involve inert pills or sham procedures. Symbols, beliefs, and expectations can elicit powerful physiological occurrences," whether these effects are beneficial or negative.¹⁰ Studies demonstrate the psychological control people have over their own health. One example shows how elderly people, regardless of true health status, who "perceive their health as poor are six times more likely to die" than those who consider themselves to have exceptional health.¹⁰ Studies propose that 60% to 90% of prescribed drugs and alternative treatments have efficacy based on a placebo effect.¹⁰ Other studies report patients exposed to fake poison ivy developing rashes, patients administered a caffeine placebo displaying increased heart rate and energy, and patients receiving a saline solution and being told it cures heartbreak actually feeling better.^{8,10}

One study put this hypothesis into practice by organizing hotel maids into two groups. One was a control group and the other group was positively reinforced that their working satisfied the requirements for a healthy lifestyle.¹⁰ The control group received no information about exercise and did not change lifestyle or work habits.¹⁰ The women who were told the benefits of the physical activity of their job saw improvements in previously present health conditions when monitored again, though they had

continued to do the same amount of work daily.¹⁰ Studies, such as this one, show prescribing exercise and encouraging positive mindsets in patients increases favorable health outcomes. A connection exists between mindset and health when exercising.¹⁰ People who are positively reinforced and told their work satisfies the recommendations for a healthy lifestyle have exhibited lower blood pressure, lower body mass index, and decreased risk of chronic disease. Being unaware of the health benefits of daily physical tasks, such as doing chores or standing for long periods of time, causes people to not receive the full benefits of the activity simply due to the lack of awareness that working meets exercise standards.¹⁰ In a study examining whether manipulations in participants' outlooks on physical fitness connects to health outcomes, it was observed that expectations of acute exercise consequences resulted in increased attention towards their own health outcomes when they were told activities they did daily counted as exercise.¹¹

By understanding the favorable effects of physical activities, such as exercise, people can take advantage of the placebo effect in their daily lives. The benefits of exercise are available to all to help prevent and treat chronic diseases of the body, as well as disorders of the mind. In addition to the physical benefits of exercise, the psychological benefits related to the placebo effect are promising and are worth implementing into daily lifestyles. Prescribing placebos alongside medication is a way to benefit future health care quality provided to patients. However, until controversial beliefs about placebos in healthcare are overcome, simply being aware of exercise's placebo effect can account for positive health outcomes in patients.

References

1. Vina J, Sanchis-Gomar F, Martinez-Bello V, Gomez-Cabrera MC. Exercise acts as a drug; the pharmacological benefits of exercise. *Br Journal Pharmacol*. 2012;167(1):1-12. doi:10.1111/j.1476-5381.2012.01970.
2. Szabo, A. Acute psychological benefits of exercise: Reconsideration of the placebo effect. *J Ment Health*. 2013;22(5):449-455. doi:10.3109/09638237.2012.734657.
3. Placebo. Definition of Placebo. Merriam Webster. <https://www.merriam-webster.com/dictionary/placebo>. 2018. Accessed September 7, 2017.
4. Biddle S. Exercise and Psychosocial Health. *Res Q Exerc Sport*. 1995; 66(4):292-297. doi:10.1080/02701367.1995.10607914.
5. Mann S, Beedie C, Jimenez A. Differential Effects of Aerobic Exercise, Resistance Training and Combined Exercise Modalities on Cholesterol and the Lipid Profile: Review, Synthesis and Recommendations. *Sports Med Open*. 2014:211-221. doi:10.1007/s40279-013-0110-5.
6. Sigal RJ, Kenny GP, Wasserman DH, Castaneda-Sceppa C, White RD. Physical Activity/Exercise and Type 2 Diabetes: A consensus statement from the American Diabetes Association. *Diabetes Care*. 2006;29(6):1433-1438. doi:10.2337/dc06-9910.
7. Stothart CR, Simmons DJ, Boot WR, Kramer AF. Is the Effect of Aerobic Exercise on Cognition a Placebo Effect?

PLoS ONE. 2014;9(10):1-7.

doi:10.1371/journal.pone.019557

8. Miller AM. Mind Over Matter: How Placebos Can Enhance Health. *U.S. News*. <https://www.usnews.com/topics/author/anna-medaris-miller>. August 10, 2017. Accessed September 7, 2017.
9. Dunn AL, Trivedi MH, Kampert JB, Clark CG, Chambless HO. Exercise Treatment for Depression. *Am J Prev Med*. 2005; 28(1):1-8. doi:10.1016/j.amepre.2004.09.003.
10. Crum AJ, Langer EJ. Mind-Set matters. *Psychol Sci*. 2007;18(2):165-171 doi:10.1111/j.1467-9280.2007.01867.
11. Mothes H, Leukel C, Seelig H, Reinhard F. Do placebo expectations influence perceived exertion during physical exercise. *PLoS ONE*. 2017; 12(6): 1-16. doi:10.1371/journal.pone.0180434.