



## **Commentary**

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### **The placebo effect revisited**

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## The placebo effect revisited

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Andersen JH, Mikkelsen S. The placebo effect revisited. *Scand J Work Environ Health*. 2012;38(2):182. doi:10.5271/sjweh.3266

Andersen et al (1) recently published data from a study on brief daily exercise and headache. They reported that a 10-week intervention with 2 minutes of daily exercise using an elastic tube caused a decrease in headache frequency from 1.4 to 0.9 days per week, a 40 % reduction. Very similar results were found for 12 minutes of daily exercise, but not in a control group. No decrease was seen in intensity of headache.

A biological background for such a remarkable effect of 10 minutes of training per week does not seem very plausible to us. The authors did not discuss alternative explanations of their findings, for example a placebo effect. In another paper about the same intervention, the authors found that 2 minutes of daily exercise reduced neck/shoulder pain intensity with 1.4 scores on a visual analog scale (VAS) of 0–10 (2) and stated that an effect of this size exceeds the expected effect in response to placebo. The effect size (standardized mean difference) for placebo effects on pain has been shown to be around 0.3 (5) and 0.5 (3) in general, and around 0.8 in 3-armed trials (3). The effect size of 2 and 12 minutes of daily exercise on shoulder/neck pain was approximately 0.5 in the study by Andersen et al (2). However, reported placebo effect sizes vary quite a lot between studies (2, 3). Average placebo effects, therefore, may not apply to a specific study. Each study should be scrutinized for potential placebo effects specific to that study. Expectations are an important factor for placebo effects (4). In the 3-armed trial by Andersen et al, the control group would have no expectations, but the two treatment groups were prone to expectations. Furthermore, larger effects of placebo were found in studies of physical interventions and studies where the outcome was based on participant reporting and cooperation (5).

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