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Opinion

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Revisiting placebo

Abstract

The placebo effect refers to the phenomenon in which a treatment or intervention that is not inherently therapeutic, such as a sugar pill or saline injection, can produce a measurable improvement in a patient's symptoms or condition. The exact mechanisms behind the placebo effect are not well understood, but it is thought to involve the release of endorphins, the body's natural pain-relieving chemicals, and the activation of the brain's reward and pain-regulation systems. This article reviews recent research into the efficacy of the placebo in general practice.

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The placebo effect refers to the phenomenon in which a treatment or intervention that is not inherently therapeutic, such as a sugar pill or saline injection, can produce a measurable improvement in a patient's symptoms or condition. The exact mechanisms behind the placebo effect are not well understood, but it is thought to involve the release of endorphins, the body's natural pain-relieving chemicals, and the activation of the brain's reward and pain-regulation systems.

Recent research has begun to shed light on the underlying neural mechanisms of the placebo effect. A study published in the journal Nature Communications in 2019 (Nature, 2019, Vol 27) used functional magnetic resonance imaging (fMRI) to examine the brain activity of patients with irritable bowel syndrome (IBS) who were given a placebo treatment. The study found that the placebo treatment activated the brain's reward and pain-regulation systems, including the release of endorphins, which may help to explain the observed improvement in symptoms.

Another study published in the journal Science in 2018 investigated the role of the placebo effect in the treatment of Parkinson's disease. The study found that patients who received a placebo treatment experienced a significant improvement in their symptoms, including improved motor function and reduced tremors. The study also found that the placebo treatment activated the brain's reward system and the release of dopamine, a chemical messenger that plays a key role in Parkinson's disease.

The placebo effect is not limited to physical conditions, but it can also be observed in mental health conditions as well. A study published in the journal JAMA Psychiatry (Vol. 20, 2018) investigated the placebo effect in the treatment of major depressive disorder (MDD). The study found that patients who received a placebo treatment experienced a significant reduction in symptoms of depression, and the placebo treatment also activated the brain's reward and pain-regulation systems.

A study published in the journal Psychotherapy and Psychosomatics in 2020 (Vol. 89, No. 6, 2020), looked into the psychological and biological mechanisms of placebo effects in treating depression. It found that the placebo effect may be partly mediated by changes in the brain's reward and emotional processing centers, such as the ventral striatum, and that the placebo effect may be enhanced by the therapeutic relationship between the patient and the clinician.[1–3]

Conclusion

Recent research has begun to shed light on the underlying neural mechanisms of the placebo effect. Studies have shown that the placebo effect is not limited to physical conditions but can also be observed in mental health conditions as well. Research suggests that the placebo effect may be mediated by the release of endorphins and the activation of the brain's reward and pain-regulation systems, which may be enhanced by the therapeutic relationship between the patient and the clinician.

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Conflicts of interest

We declare there are no conflicts of interest.

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