Placebo Effect: A Surprising Link Between Mind and Body

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Essay Prompt

The graph on the following page describes a study of 80 patients with irritable bowel syndrome (IBS). Patients either got no treatment or were given a placebo pill (1). When given the pill they were told “Placebo pills are made of an inert substance, like sugar pills, and have been shown in clinical studies to produce significant improvement in IBS symptoms through mind-body self-healing processes” (2). The information provided comes from an excerpt of *Curiosities of the Mind,* which details the phenomenon where belief in a supplied treatment can lead to symptom relief, leading to occurrence of the placebo effect. The graph clearly shows that patients getting the pill did better than those without. How is this possible? In the space below, 1) speculate how the mind-body connection could lead to such an improvement in symptoms, and 2) discuss how this process might be at play in the pharmacological treatment of brain diseases?

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Abstract

The placebo effect explains how a patient's symptoms can show positive therapeutic effect after receiving a placebo treatment through psychological processes of the mind and body. The placebo is defined as a harmless drug, medicine, or operation provided primarily for the patient's psychological benefit rather than any reaction and the physiological consequence. The idea of the "mind-body connection" is crucial since even the presumption that a treatment will be beneficial, and its intrinsic efficacy have a variety of physiological impacts on the body. A multitude of naturally mental-physical changes are brought about by the placebo effect, such as decreased stress or pain relief, which has shown to have an increase in endorphin production, a reduction in brain reaction and the creation of expectations, all of which result in increased activity in certain brain regions (3). This

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essay discusses the placebo effect's impact on the human mind-body relationship. The research conducted in this prompt used an experimental approach to determine how the mind and body are connected. In this study, the conclusions derived from the effects of placebos are firmly rooted in how patients psychologically react to an undergoing treatment. Compared to IBS patients who did not get placebos, those who received the pills demonstrated more improvement. It is important to acknowledge that the patients' expectations are a significant factor in determining the course of a placebo effect, as they have a direct impact on the psychological and physiological reactions to the treatment plan.

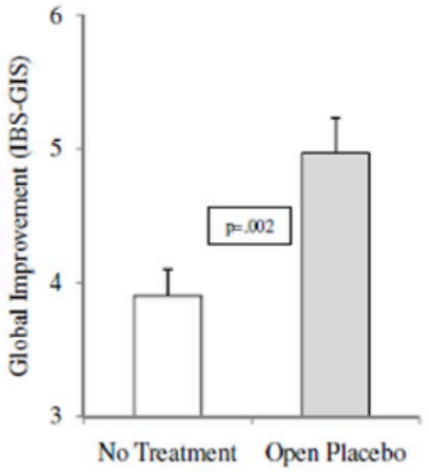

Figure 1: Results of the Treatment Group at the 21-day Mark.

The graph displays a greater perceived improvement in symptoms for the open placebo group, compared to the no treatment group after 21 days (1).

Introduction

Despite the basic nature of placebos as generally being substances such as sugar pills devoid of active ingredients, it has a significant psychological aspect attached to the belief that a pill can treat or alleviate symptoms, and this emphasizes on the intriguing connection between the mind and body. By lowering the formation of stress hormones and chemicals like adrenaline, taking a placebo pill (with the belief that it is truly effective) can cause the body's natural painkillers to be released. Furthermore, placebos can reduce reactions connected to pain by activating conditioned responses and expectations. More specifically, placebo itself is a conditioned stimulus and placebo effects are conditioned responses (4). Additionally, there is a therapeutic benefit to placebo tablets since they reflect greater activity in particular brain regions associated with emotional reactions and self-awareness including the amygdala, medial prefrontal cortex, and the insular cortex (5). The neurobiological psychological processes linked to treatment beliefs are responsible for all these symptom changes (6). This eventually results in a notable improvement in the symptoms and sometimes decreases their intensity. Strong placebo responses do that by triggering the release of dopamine (a neurotransmitter involved in reward and motivation pathways in the brain) or other endorphins, improving sleep quality and thus reducing stress hormones like adrenaline. One study found that participants who believed in placebos expressed less anxiety and lower cortisol responses related to stress than participants who did not (7). Placebos are often ineffective pharmacologically and lack any active ingredients. However, a person's belief in treatments might be sufficient to alter the course of their bodily illness. Studies revealed placebo treatment helps patients ameliorate pains such as a headache or neuropathic pain, they can improve Parkinson's disease, reduce seizure frequency and epilepsy, and help with MS symptoms. This may be helpful in the pharmacological treatment of neurological conditions or brain diseases. The exact mechanism of action of placebos is still unknown, but it is known to be a complex neurobiological response involving everything from an increase in feel-good neurotransmitters like dopamine and endorphin to increased activity in brain areas related to mood, emotional responses, and self-awareness.

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