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Opinion Article

Efficacy and Safety of Randomized Controlled Drug Trials with Placebo

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DESCRIPTION

A placebo is a medicine that looks like a pill or injection, which is used in medical treatment. An example of a placebo is a sugar pill used in a control group during a clinical trial. Placebos look like real drugs but are made of inert substances such as starch and sugar. Placebos are used only in research studies. A placebo effect occurs when an improvement in symptoms is observed despite the use of an ineffective treatment. It is thought to be caused by psychological factors such as anticipation and classical conditioning. Placebos are used in clinical trials to test the effectiveness of treatments and are most commonly used in drug trials. For example, one group of people will receive the actual drug, and another group will receive the inactive drug or a placebo. This allows researchers to measure whether a drug is working by comparing responses in both groups. If both have the same response (improvement or not), the drug is considered ineffective. A placebo is a pharmacologically inactive substance that produces a therapeutic effect when administered to patients who believe they are receiving effective treatment. Placebos have been used in clinical trials and are an integral part of research into new treatments. Placebos have been used to treat sleep disorders, anxiety, gastrointestinal disorders, chronic pain, and other conditions.

Although there is no active ingredient, some people feel better when they take a placebo. This phenomenon, called the placebo effect, seems to occur for two reasons. The first reason is coincidental changes. As many conditions and symptoms come and go without treatment, people taking a placebo may randomly feel better or worse. The second reason is expectations (sometimes called suggestibility). The hope that a drug will work often makes people feel better. Although placebos do not contain an actual cure, researchers have found that placebos can have a variety of physical and psychological effects. Participants in the placebo group showed changes in heart rate, blood pressure, anxiety, pain perception, fatigue, and even brain activity. When researchers expect certain outcomes, they may unconsciously provide clues to how participants should behave.

When a new drug is developed, researchers conduct studies to compare the effect of the drug to that of a placebo. This is because any drug can have a placebo effect regardless of its effect. Real drug effects must be distinguished from placebo effects. Typically, half of the study participants will receive the drug and the other half will receive a placebo that appears to be the same.

Skipping non-hormonal medications and jumping straight to the next pack of medications without pausing may lead to complications. It is important to note that not all placebo effects are beneficial. In some cases, placebo administration may worsen symptoms rather than improve them. The placebo was 50% as effective as the real drug in relieving pain after a migraine attack. Treatment with a placebo is often associated with adverse drug reactions. Before evaluating the effects of active treatment in controlled clinical trials, one must need to know the effects and side effects of placebos.

Like all other medications, a placebo also has some side effects especially when this drug has interacted with other drugs. Common side effects caused by placebo are depression, pain, sleeping disorder, irritable bowel syndrome, and menopause. This placebo has no known medical effects and may come in the form of tablets (sugar pills), injections (saline), or consumable liquids. However, it is important to remember that it is not a cure for the underlying condition. Placebos are rarely used in clinical trials of cancer treatments and are used when there is no standard treatment. Trials of antidepressants and antipsychotics have reported greater placebo responses.

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