

A. A. Zhuk, P. I. Loznukho
PLACEBO EFFECT: A CURE IN THE MIND
Tutor: M. N. Petrova, Ph.D., associate professor
Department of Foreign Languages,
Belarusian State Medical University, Minsk

Resume. *A placebo is an inert substance, typically a tablet, capsule or other dose form that does not contain an active drug ingredient. Patients receiving a placebo generally believe it is the same as the typical standard of care, and many experience what is known as the “placebo effect” – an improvement in symptoms – even though they received no actual “active” treatment.*

Keywords: *Placebo effect, neurobiologic mechanisms, neurotransmitters, biopsychological phenomena, response to placebo.*

Topicality. Our brain is known to work in mysterious ways, and the placebo effect is a prime example of that. Most of us know a thing or two about it, namely that we can essentially cure ourselves of maladies simply believing that our condition will be improved. As a result, we may feel better and identifiable symptoms may disappear.

Objective: The objective of our research is to study the placebo methods and to determine their impact on humans.

Materials and methods. Placebo effects rely on complex neurobiologic mechanisms involving neurotransmitters (e.g., endorphins, cannabinoids, and dopamine) and activation of specific, quantifiable, and relevant areas of the brain (e.g., prefrontal cortex, anterior insula, rostral anterior cingulate cortex, and amygdala in placebo

analgesia). Many common medications also act through these pathways. In addition, genetic signatures of patients who are likely to respond to placebos are beginning to be identified. Such basic mechanistic discoveries have greatly enhanced the credibility of placebo effects. Moreover, recent clinical research into placebo effects has provided compelling evidence that these effects are genuine biopsychosocial phenomena that represent more than simply spontaneous remission, normal symptom fluctuations, and regression to the mean.

Results and its discussion. There are 3 types of the placebo effect: a positive placebo effect, negative and mixed placebo effect.

Positive placebo effect is a positive progress after placebo, for example, improved health or sleep parameters, functions of the cardiovascular and respiratory system, the emergence of new plans, the feelings of joy, optimism, weakening or disappearance of the painful symptoms such as slowing and relief of asthma attacks or angina, the cessation of nausea or headache, etc. A positive placebo effect is differentiated from the therapeutic effects of the drug in establishing the true effectiveness of the drug.

Negative placebo effect means directly opposite changes: deterioration of health or disease, the emergence of adverse events or symptoms such as sleepiness or insomnia, anxiety, panic attacks, apathy, nausea, vomiting, headache, constipation or diarrhea, decreased or increased appetite, appearance of itching, difficulty swallowing or breathing, and so on. Negative placebo effect is differentiated from toxic and side effects of drugs.

Mixed placebo effect occurs when in the same person there are both positive and negative developments. For example, sleep improved, but there was a dry mouth; or unpleasant sensations in the heart disappeared, but there was nausea. The proportion of positive and negative placebo effects may be different not only between individuals, but also in one person at different times (with repeated placebo). The mixed placebo effect often imitates the action of the drug in general.

In fact, placebos were often the only thing that a doctor could offer to relieve suffering, other than his or her attention and support. Some researchers believe that placebos simply evoke a psychological response. The act of taking them gives you an improved sense of well-being. However, recent research indicates that placebos may also bring about a physical response. In light of this, some people don't see anything wrong with a doctor prescribing a placebo. After all, he or she is doing it to help the patient.

In clinical practice, physicians may prescribe placebo treatments with or without the patients knowledge that they are receiving an inactive therapy. Psychologically, the patient may be encouraged that they are receiving a treatment for their ailment that they believe will have beneficial effect, and in turn the placebo may actually provide some relief. However, the effect would not be due to a pharmacological action attributed to the chemical composition of the medicine. Placebos have been used in treatment of sleep, anxiety, gastrointestinal disorders, chronic pain and other disorders. The therapeutic use of placebo or sham treatments in medicine is very controversial.

In one survey, only three percent of U.S. physicians reported using actual sugar pills as placebos, but 41 percent said they had used over-the-counter painkillers and 38 percent said they had used vitamins as placebos for their patients. Sixty-eight percent of physicians

described the placebo to their patients as a potentially beneficial medicine, and roughly two-thirds of the doctors felt the practice was ethical.

In another study, physicians used reduced doses of anti-inflammatory medications mixed in combination with a placebo to successfully treat psoriasis patients. Combining active drug with placebo may be effective in diseases that involve the mental state and immune system, including asthma, multiple sclerosis, and chronic pain. Reducing doses by combining with placebo treatment could also reduce side effects, addiction potential and cost.

Conclusions: First, though placebos may provide relief, they rarely cure. Although research has revealed objective neurobiologic pathways and correlates of placebo responses, the evidence suggests that the therapeutic benefits associated with placebo effects do not alter the pathophysiology of diseases beyond their symptomatic manifestations; they primarily address subjective and self-appraised symptoms. For example, there is no evidence that placebos can shrink tumors; however, experiments demonstrate that common symptoms of cancer and side effects of cancer treatment (e.g., fatigue, nausea, hot flashes, and pain) are responsive to placebo treatments.

Second, the effects of symbols and clinician interactions can dramatically enhance the effectiveness of pharmaceuticals.

Third, the psychosocial factors that promote therapeutic placebo effects also have the potential to cause adverse consequences. Not infrequently, patients perceive side effects of medications that are actually caused by anticipation of negative effects or heightened attentiveness to normal background discomforts of daily life in the context of a new therapeutic regimen. For example, nocebo effects were demonstrated in a study of benign prostatic hypertrophy treated with finasteride: patients informed of the sexual side effect of this drug reported sexual side effects at three times the rate that patients who were not so informed did.

References

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