



# Harvard Health Letter

VOLUME 37 • NUMBER 6 | APRIL 2012

## Putting the placebo effect to work

*Rather than dismiss it, we should try to understand the placebo effect and harness it when we can.*

For a long time, the placebo effect was held in low regard. If people responded to a suspect treatment, we said it was “just the placebo effect.” The suggestion was that they had been fooled in some way, and their response was inauthentic.

But attitudes are shifting, even in conventional medical circles. Randomized trials, some of them led by researchers at the Harvard-wide Program in Placebo Studies and the Therapeutic Encounter, have deepened the understanding of the placebo effect and its various components. Researchers have also used brain scans and other technologies to show that there may be a physiological explanation for the placebo effect in many cases. There is some danger that uncritical acceptance of the placebo effect could be used to justify useless treatments. But more important is the growing recognition that what we call the placebo effect may involve changes in brain chemistry—and that the placebo effect may be an integral part of good medical care and an ally that should be embraced by doctors and patients alike.

### The power of expectation

Arriving at a tidy definition of the placebo effect is difficult, but here's a try: it's a favorable response to a medical intervention—a pill, a procedure, a counseling session, you name it—that doesn't have a *direct* physiological effect. (Note the emphasis on direct, because there do seem to be *indirect* effects.) The classic example is when people enrolled in a study experience some improvement in their condition even though they have been assigned, for comparison purposes, to take “dummy” pills that don't contain any active ingredients.

Expectations appear to have a lot to do with the effect. If an intervention is believed to help a condition, a certain percentage of people who receive it will experience some benefit.

How large a percentage varies tremendously and depends on the condition, the strength of belief, the subjectivity of the response, and many other factors. The placebo effect may also have an element of psychological conditioning: once someone benefits from an intervention, the person starts to associate

that intervention with a benefit. The association, and therefore the benefit, may get stronger with additional exposures to the intervention.

### An effect of care that's caring

There's also evidence that some of the placebo effect is a favorable reaction to care and attention from people who patients believe can help ease their suffering and distress. Researchers associated with Harvard's placebo studies program published a study several years ago that illustrates this aspect of the response very nicely. The volunteers for the study were people with irritable bowel syndrome (IBS), a condition that causes abdominal pain and changes in bowel movements in the absence of any discernible changes to the bowel. The placebo treatment was sham acupuncture, which involves the use of needles that, unbeknownst to the patient, retract into their handles instead of penetrating the skin. The placebo effect of the sham acupuncture needles was impressive: 44% of those treated with just the sham needles reported relief from their IBS problems. When sham acupuncture was combined with attentive, empathetic interaction with the acupuncturist, the placebo effect got even larger, with 62% reporting relief from their IBS woes. ▶▶



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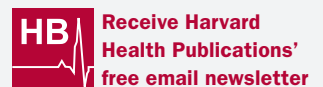
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Published monthly by Harvard Health Publications,  
a division of Harvard Medical School

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## Subjective vs. objective

The placebo effect is most pronounced and relevant when a treatment's success or failure depends largely on the subjective experiences of patients. That's often the case for conditions that are defined mainly by symptoms, such as depression, and problems like migraine headaches and back pain that are defined primarily by the pain they produce.

Sometimes treatments can be judged by both objective and subjective outcomes, and a Harvard study published last year in *The New England Journal of Medicine* showed that the placebo effect may influence one and not the other. This small study compared the response of 39 people with asthma to albuterol, an inhaled bronchodilator that's commonly used to treat asthma, with two different inactive treatments, a placebo inhaler and sham acupuncture. Albuterol was much more effective than both the placebo inhaler and the sham acupuncture when an objective test of lung function, called FEV<sub>1</sub>, was used to measure the response of the asthmatic study volunteers. But when the study volunteers were asked about their symptoms and perceived improvement in their asthma, albuterol and the placebos performed equally well.

Research is showing that the placebo effect often seems to be associated with objective changes in brain chemistry. A number of studies have shown, for example, that the brain releases natural pain-relieving substances, called endorphins, when people enrolled in pain studies are given placebos. Research results indicate that measurable changes in brain chemistry may explain the large placebo effect seen in depression treatment. Parkinson's disease is associated with a shortage of a brain chemical called dopamine, and in studies of the disease, placebos have increased the production of dopamine.

## Getting it out in the open

Several years ago, just under 700 American internists and rheumatologists were surveyed about prescribing placebos. Only a small percentage had ever prescribed "pure" placebos like sugar pills or saline solutions. But about 40% re-

ported that they had prescribed over-the-counter pain relievers or vitamins as placebos, not because they believed these compounds would have a direct effect on the person's condition. Even if patients feel better, prescribing pain relievers and vitamins in that way involves some deception.

Dr. Ted Kaptchuk, director of the Harvard placebo program, and colleagues have conducted "open-label" placebo studies, in which patients were told they were taking a placebo and that the placebo effect is powerful. In one small study of IBS patients, Dr. Kaptchuk and his colleagues found that an open-label placebo still produced a placebo effect and was about 20% more effective than no treatment. These and other results suggest that doctors could be more up-front with patients, informing them that a prescription is mainly for placebo purposes, and their patients would still benefit, as long as the prescription had no major drawbacks.

## What you can do

We're a long way from fully understanding the placebo effect. But here are some things you can do (and think), based on what researchers have discovered so far:

**Make sure you're getting the support you need from your doctor.** Placebo effect research has shown how important a supportive doctor-patient relationship can be. If you're not getting the support and attention you need, consider switching doctors.

**Recognize that it might be "in your head"—but there's nothing wrong with that.** Behind the subjective experience of feeling better (and worse) are objective changes in brain chemistry that we've only started to understand.

**Find treatments you can believe in...** Expectations that an intervention will have some benefit increase the chances that it will.

**...but keep your healthy skepticism.** Quacks and charlatans can exploit the placebo effect to peddle treatments that are useless, and even harmful, if for no other reason than they keep people from getting treatment that is directly effective. ♥

© 2012 Harvard University (ISSN 1052-1577)  
Proceeds support research efforts of Harvard Medical School.

Harvard Health Publications  
10 Shattuck St., 2nd Floor, Boston, MA 02115

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