

# The nocebo effect: can our thoughts kill us?

By Sarah Berry



Mind over matter: what we believe can have an effect on our bodies.

Our minds are more powerful than most of us realise.

The placebo effect accounts for as much as one third of symptom relief in sick people, according to the American Cancer Society.

When we believe we will get better, we have the potential to heal, but also to harm ourselves.

The flip side of the placebo effect is the nocebo effect. The nocebo effect is when we experience negative symptoms from a dummy treatment (placebo) because we expect harmful side effects.

The nocebo effect can see us manifest side effects of a 'treatment', which can be as broad as vomiting, pain, headaches and even, it is argued, death.

In a new feature, the *BBC* calls the nocebo effect the contagious thought "that could kill you".

The feature recounts a distressing incident that led to a man's death in the 1700s.

Students played a nasty prank on their medical professor's disliked assistant. Intending to give him a fright, they kidnapped him, telling him they were going to decapitate him. They blindfolded him, laid his head on a chopping block and draped a wet cloth over his neck. Convinced he was about to die, the assistant died instantly.

"Can the nocebo effect cause death?" asks Harvard's Herbert Benson, while discussing that and other such cases. "There is indeed literature that supports this contention."

In regards to the assistant's death by (anticipated) decapitation, Dr Bryce Vissel, a neuroscientist at the Garvan Institute of Medical Research, isn't convinced it was from nocebo.

"That is shock," he says. "Wild animals, such as birds, can have a heart attack from an extreme shocking experience. It is not unlikely that this is also the case in humans. For example, a recent study showed that anger for example can bring on heart attacks."

Extreme stress or nocebo, "what they both show is our brain can control our responses".

And it is not just all in the mind.

A study last year explored the physiological impact of the nocebo effect and the placebo effect. Neuroscientists from the University of Turin's medical school took 121 students to the Italian Alps. They started a rumour among about a quarter of the group that the thin air at the top of the mountain might bring on an agonising migraine.

The people who were told the rumour reported the worst headaches. Not only this, but measures of an enzyme associated with headaches were higher in this group also.

"The brain biochemistry changed in the 'socially infected' individuals," the lead author said.

Other studies have also found measurable biochemical changes as a result of the nocebo effect. One other interesting aspect of the Italian study was the idea that nocebo can be contagious.

"Social environment can be an important contributor to health, and emphasises how negative expectations can propagate across a large number of individuals, thus contributing to the dissemination of symptoms and illness across the general population."

The nocebo effect, it has been found, is more common after media reports about potential negative side effects of something. This can relate to anything from food, a drug or technology, like your mobile phone.

"Media reports about substances that are supposedly hazardous to health may cause suggestible people to develop symptoms of a disease even though there is no objective reason for doing so," warn the authors of a recent study.

"Attitude will effect outcomes," Dr Vissel. "We don't fully understand it ... but the higher brain, through certain neural pathways, can control bodily functions. The extent to which this is possible is unclear."

One thing that is clear, Dr Vissel cautions, is that we need to be careful about how we apply such information.

Certain drugs and treatments, for instance, are effective regardless of what we believe. Additionally, knowing that our brains can have a tangible effect on our bodies, should not be used to make people feel guilty about their health.

"The worst thing you can say to someone is 'don't be anxious because you can control that'," he explains. "That message is that we don't take people's situation seriously."

Dr Vissel points out that people experience pain and illness differently and experts still do not understand why.

Having awareness that we do have an impact on our health can help us though.

"Are you motivated to try to activate your body's innate self-repair mechanisms by shifting your beliefs from negative ones to positive ones?" asks NY Times bestselling author of *Mind Over Medicine*, Dr Lissa Rankin.

The extent to which the placebo effect can impact us physically – and whether it can actually cause death – is unclear.

But expanding this understanding and appreciating the power of the mind, and how we can harness it, is part of the future of neuroscience.

"We can influence our health," Dr Vissel says, "and neuroscience, over the next 20 to 50 years, will get a very strong handle on those pathways and how we can use that therapeutically."

Source; <http://www.smh.com.au/lifestyle/life/the-placebo-effect-can-our-thoughts-kill-us-20150304-13tdjl.html>