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Heart pill to banish bad memories

Scientists believe a common heart medicine may be able to banish fearful memories from the mind.

The Dutch investigators believe beta-blocker drugs could help people suffering from the emotional after-effects of traumatic experiences.

They believe the drug alters how memories are recalled after carrying out the study of 60 people, Nature Neuroscience reports.

But British experts questioned the ethics of tampering with the mind.

Paul Farmer, chief executive of mental health charity Mind, said he was concerned about the "fundamentally pharmacological" approach to people with problems such as phobias and anxiety.

He said the procedure might also alter good memories and warned against an "accelerated Alzheimer's" approach.

In the study, the researchers artificially created a fearful memory by associating pictures of spiders with a mild electric shock delivered to the wrists of the volunteers.

A day later the volunteers were split into two groups - one was given the beta blocker propranolol and the other a dummy drug before both were shown the same pictures again.

The researchers assessed how fearful of the pictures the volunteers were by playing sudden noises and measuring how strongly they blinked, something called the "startle response".

Memories erased

The group that had taken beta blockers showed less fear than the group that had taken the placebo pill.

The following day, once the drug was out of their system, the volunteers were retested. Once again, those who had taken the beta blocker were less startled by the images.

Study leader Dr Merel Kindt explained that although the memories are still intact, the emotional intensity of the memory is dampened.

Dr Kindt stressed that using the procedure for complex conditions such as post traumatic stress disorder was still many years away.

Experiments on animals has shown beta blockers can interfere with how the brain makes sense of frightening events.

She told Nature Neuroscience: "Millions of people suffer from emotional disorders and the relapse of fear, even after successful treatment.

"Our findings may have important implications for the understanding and treatment of persistent and self-perpetuating memories in individuals suffering from emotional disorders."

But Professor Neil Burgess of the Institute of Cognitive Neuroscience said the research merely demonstrates that the beta blockers reduce a person's startle response, breaking the association of the spider to these unconscious responses.

And Dr Daniel Sokol, lecturer in Medical Ethics at St George's, University of London, said memories were important, for people to learn from their mistakes for example.

"Removing bad memories is not like removing a wart or a mole. It will change our personal identity since who we are is linked to our memories. It may perhaps be beneficial in some cases, but before eradicating memories, we must reflect on the knock-on effects that this will have on individuals, society and our sense of humanity."

John Harris, Professor of Bioethics at the University of Manchester, said: "An interesting complexity is the possibility that victims, say of violence, might wish to erase the painful memory and with it their ability to give evidence against assailants."



The drug may alter how the brain deals with memories

“ Before eradicating memories, we must reflect on the knock-on effects that this will have on individuals ”
Medical ethics expert Dr Daniel Sokol

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