**Antibiotics could prevent and cure PTSD: Drug helps people 'forget' to be scared by bad memories**

* **A drug used to treat bacterial infections could help prevent and cure PTSD**
* **Doxycycline works by blocking certain proteins outside nerve cells, which our brains need to form memories**
* **A trial showed that people on the pill had a 60 percent lower fear response**
* **The drug could be among the first to cure symptoms rather than just treat them**

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Antibiotics could help prevent and cure people suffering from PTSD, a new study reveals.

Researchers say a common drug called doxycycline - used to treat bacterial infections - can disrupt the formation of negative thoughts and fears in the brain.

The antibiotic works by blocking certain proteins outside nerve cells, called matrix enzymes, which our brains need to form memories.

The medication could be among the first to cure the symptoms of the disorder rather than just treat them.

New research has shown a common antibiotic could help treat or even cure people suffering from PTSD by blocking certain proteins outside nerve cells, which our brains need to form memories (file image)

Post-traumatic stress disorder, or PTSD, is caused by an overactive fear memory and includes a broad range of psychological symptoms that can develop after someone goes through a traumatic event.

About 70 percent of US adults - 223.4 million people - have experienced some type of traumatic event at least once in their lives.

And an estimated eight percent of Americans, or 24.4 million people, have PTSD at any given time.

In a joint-trial held by University College London, in England, and the University of Zurich, in Switzerland, 76 healthy volunteers were given either the drug or a placebo dummy pill.

The researchers found that those who were on doxycycline had a 60 percent lower fear response than those who were not.

'We have demonstrated a proof-of-principle for an entirely new treatment strategy for PTSD,' said Dr Dominik Bach, a professor at University College London and the University of Zurich, who co-led the research team.

In the trial, volunteers were given either doxycycline or a placebo and put in front of a computer.

The screen would flash either blue or red, and one of the colors was associated with a 50 percent chance of getting a painful electric shock.

After 160 flashes with the colors in random order, participants learned to associate the 'bad' color with the shock.

A week later, under no medication, the volunteers repeated the experiment. This time there were no electric shocks, but a loud sound played after either color was shown.

Fear responses were measured by tracking eye blinks because they are an instinctive response to sudden threats.

The fear memory was calculated by subtracting the response to the sound on the 'good' color from the response to the sound when the 'bad' color was shown.

While the fear response was 60 percent lower in those who had doxycycline in the first session, the researchers also found that other cognitive measures - such as sensory memory and attention - were not affected.

'When we talk about reducing fear memory, we're not talking about deleting the memory of what actually happened,' Dr Bach said.

'The participants may not forget that they received a shock when the screen was red, but they 'forget' to be instinctively scared when they next see a red screen.

'Learning to fear threats is an important ability in...helping us to avoid dangers. [But] over-prediction of threat can cause tremendous suffering and distress in anxiety disorders such as PTSD.'

Dr Bach said he and his team would next like to explore doxycycline's potential effects further, including in a phenomenon called 'reconsolidation' of fear memories.

This approach to helping people with PTSD attempts to change memories and associations after an event when the patient experiences or imagines similar situations.

Read more: <http://www.dailymail.co.uk/health/article-4379392/Antibiotics-help-prevent-cure-PTSD.html#ixzz4h9tyfPjx>   
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