

ADHD A 'BRAIN DISORDER', NOT BAD BEHAVIOR: STUDY

PARIS: People with ADHD have slightly smaller brains than those without the condition, according to a study released yesterday which insisted it is a physical disorder and not just bad behavior. The largest analysis to date of the brains of people with attention deficit hyperactivity disorder found "structural differences" and evidence of delayed development compared with non-sufferers, researchers reported.

"The results from our study confirm that people with ADHD have differences in their brain structure and therefore suggest that ADHD is a disorder of the brain," said the study's lead author, Martine Hoogman of Radboud University Medical Centre in the Netherlands. "We hope that this will help to reduce stigma that ADHD is 'just a label' for difficult children or caused by poor parenting," she said in a statement.

The results of the study, which involved 1,713 people with ADHD and 1,529 people without the condition, were published in The Lancet Psychiatry. Most often diagnosed in children, ADHD is blamed for severe and repeated bouts of inattention, hyperactivity or impulsiveness that can cause problems at school or home. The symptoms can persist into adulthood. The causes remain in dispute, and some specialists say ADHD is nothing but an excuse for using drugs to subdue children with difficult personalities or bad parents. Drugs for treating ADHD, such as Ritalin, have been blamed for side effects including weight loss or gain, liver damage and suicidal thoughts. For the latest study, Hoogman and a team analysed the MRI scans of people aged four to 63, suffering from ADHD or not.

Emotional control

They measured overall brain volume as well as the size of seven regions thought to be linked to the disorder. The volume overall was smaller in people diagnosed with ADHD, as were five of the brain regions, the team said. "These differences are very small-in the range of a few percent-so the unprecedented size of our study was crucial to help identify these," Hoogman said. "Similar differences in brain volume are also seen in other psychiatric disorders, especially major depressive disorder." The regions affected included the amygdala, which is involved in the regulation of emotion. Previous studies which associated changes in brain volume with ADHD had been too small to be conclusive, the team said. The differences observed in their study were most prominent in children, but also present in adults with the condition. —AFP

BITE-MIMICKING MALARIA VACCINE SHOWS PROMISE

PARIS: A malaria vaccine that mimics a mosquito bite yielded encouraging results in human trials, its makers said yesterday, raising hopes for thwarting a parasite that kills a child every two minutes. The candidate drug, called PfSPZ, provided up to 100 percent protection for 10 weeks in a trial in Germany, although a trial in real life conditions in Mali gave a lower level of defence, they reported in two separate studies.

"We are extremely encouraged by these findings," said Stephen Hoffman of vaccine developer Sanaria, a company based in Maryland. But he stressed a lot of work lay ahead, and a registered vaccine may take another two years to reach the market. PfSPZ uses a live, immature form of the malaria parasite, called a sporozoite, to stimulate an immune reaction in humans.

In one trial, a version of PfSPZ required fewer shots and a lower dose of live malaria parasites than tested to date, researchers reported in the science journal Nature. For another form of the vaccine, sporozoites are exposed to radiation to weaken them before being injected into the human bloodstream. A previous trial with the irradiated version saw 44 trial volunteers given five shots, each with up to 135,000 sporozoites, or three doses with up to 1.8 million sporozoites in total.

The highest dose conferred up to 100 percent immunity, a 2013 report said. For the German trial, volunteers were given only three injections over eight weeks or 10 days, with sporozoite doses ranging from 3,200 to 51,200 per shot. All nine volunteers in the high-dose group enjoyed malaria protection 10 weeks after the last dose, compared to six out of nine in the medium- and three out of nine in the low-dose groups, said Hoffman.

No radiation

"The ability to complete an immunization regime in 10 days will facilitate the use of PfSPZ-CVac in mass vaccination programs to eliminate the malaria parasite and to prevent malaria in travellers," he added. The reason that fewer sporozoites were required was that they were not irradiated before injection. Instead, the vaccine was administered in conjunction with an anti-malarial drug, chloroquine, to stop the parasite causing disease once inside the human body.

PfSPZ is being developed against the Plasmodium falciparum mosquito-borne parasite, by far the deadliest type. Further trials are to follow in Mali, Ghana, the United States and Gabon. A second report, published in The Lancet Infectious Diseases, said 44 people given five doses of PfSPZ

in Mali had a lower rate than non-inoculated peers after six months.

Of the control group given a placebo or dummy injection, 93 percent contracted malaria, said the team. In the vaccinated group, "only" 66 percent were infected. "That's the highest level of protection ever seen with a malaria vaccine... in a real setting," Hoffman told AFP. According to the World Health Organization (WHO), there were 212 million malaria cases in the world in 2015 and 429,000 deaths.

More than 90 percent of deaths occur in Africa. Another vaccine called RTS,S, developed by GlaxoSmithKline, is being tested in children-the most affected population. It is considered the most advanced candidate, but results last year from a Kenyan trial showed it was only about four percent effective after seven years.

The developers of PfSPZ are aiming for efficiency of about 80-90 percent protection lasting for six months to a year, Hoffman said. "We hope we'll be there this year, maybe next year. We're closing in on it," he told AFP. Hundreds of millions of dollars have been spent on the quest for a vaccine, but bite-prevention remains the most effective prophylactic-mosquito nets, insecticides, and wearing long sleeves in malaria-riddled areas. —AFP

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THE ORIGINAL INSPIRATION BASED IN THE ARABIAN BUILT

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