Gut Bacteria May Hold the Key to Alzheimer's Disease Prevention

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Bacteria in the intestine may accelerate the development of Alzheimer's disease, according to new findings published online in the journal Scientific Reports. The study results may help scientists better understand how gut flora—a complex community of microorganisms that live in our digestive tract and affect our mental health—could eventually lead to new preventive treatments for the most common type of dementia, The Atlanta Journal-Constitution reports.

Alzheimer's disease is a general term for memory loss and other changes in thinking and behavior. Early signs of the mental illness include difficulty remembering new information. The disease gets progressively worse and leads to more severe symptoms, such as disorientation and mood and behavior changes; deepening confusion about events, time and place; unfounded suspicions about family, friends and professional caregivers; and problems speaking, swallowing and walking. There is no cure for Alzheimer's disease, though early intervention may help preserve daily functioning for some time.

For this latest study on the condition, researchers at Sweden's Lund University placed gut bacteria from both mentally healthy mice and mice with Alzheimer's disease into rodents with no preexisting bacteria in their intestines. Next, scientists observed the rate at which beta-amyloid plaques—protein fragments that routinely build up in the brains of people with Alzheimer's disease—grew in their test subjects.

By the end of the study, findings showed that mice that received bacteria from rodents with the mental illness developed far more beta-amyloid plaques compared with those that received bacteria from healthy mice.

"Our study is unique as it shows a direct causal link between gut bacteria and Alzheimer's disease," said Frida Fak Hallenius, coordinator of the Gut Microbiome Laboratory at Lund University's Food for Health Science Centre, a study researcher. "It is striking that the mice which completely lacked bacteria developed much less plaque in the brain."

Scientists said they planned to study the intestinal microbiome to find new pathways to prevent the disease and delay its onset. This is a unique development because, until now, the majority of Alzheimer's research aimed only to alleviate symptoms of the condition.

It’s estimated that as many as 5.4 million Americans are living with Alzheimer’s. Click here to learn more about recent findings that focus on how to prevent this illness.
