

Fear dementia? Your diet, weight more important than genes, experts say

January 26 2012, By Marni Jameson

Anyone who has a close relative with Alzheimer's shares the same worry: Am I next? However, a growing body of research indicates that our lifestyles - particularly what we eat and whether we're obese - play a greater role than our genes in determining our brain health as we age.

"For years, scientists thought that Alzheimer's was primarily genetic," said Gary Wenk, professor of neuroscience at Ohio State University. "We now believe that, while there's a [genetic component](#), Alzheimer's is primarily a lifestyle disease."

People do carry genes, including APOE-4, that predispose them toward the disease, but whether they activate those genes depends heavily on their lifestyles, said Dr. Stuart Lipton, professor at Sanford-Burnham Research Institute, where he's scientific director of neuroscience, aging and stem-cell research.

"A myth exists that if the Alzheimer's gene is in your family, you're going to get it. But that only affects 1 percent of cases," Lipton said. "What matters most is how you superimpose your lifestyle on top of your [genetic background](#)."

A [degenerative brain disorder](#) that causes progressive [loss of memory](#) and intellectual and social skills, Alzheimer's is the most common form of [dementia](#), affecting 5.4 million Americans, nearly half a million in Florida alone, according to the Alzheimer's Association. Though no cure exists, medications can slow progress.

Although Americans may have more control over whether they develop Alzheimer's than they thought, the primary risk factors are all on the rise.

"Looking at the rising rate of obesity, diabetes and [metabolic syndrome](#), we're in a bad state of affairs," Lipton said.

Obesity is linked to Alzheimer's because it's a risk factor for diabetes, and diabetics have a two to three times greater risk of developing Alzheimer's, said Ira Goodman, a neurologist at Orlando Health. "We believe that's because their impaired ability to use or make insulin contributes to neurodegeneration" - in other words, brain breakdown.

Goodman, like other neuroscientists, recommends eating fewer carbohydrates, which keeps insulin levels down.

He cited a study out of the University of Cincinnati that found that carbohydrate restriction helped participants who had mild cognitive impairment regain mental function. Researchers divided the 23 participants into two groups. One group went on a typical diet consisting of 50 percent of calories from carbohydrates for six weeks. The other group went on a low-carbohydrate diet, where fewer than 10 percent of calories came from carbohydrates.

Afterward, cognitive function stayed about the same in the first group, while in the low-carb group, function improved, according to the 2010 study, published in the *Neurobiology of Aging*.

Brain experts also recommend a diet high in protein and rich in colorful fruits and vegetables. The latter are strong in polyphenols and antioxidants, which have proven to boost [brain health](#).

Controlling stress is also important for optimizing brain function. Stress

increases cortisol, a hormone, in the blood, which increases blood sugar, which increases insulin, Goodman said. The neuroscientist also does research at Compass Research in Orlando, where studies are under way looking for medications to prolong brain health and slow mental demise.

In a recent study at Yale, scientists found that stressful events appeared to cause gray matter - the brain tissue that contains dendrites, which transfer information between brain cells - to shrink. The cumulative effects of stress lead to cognitive impairment and probably to memory loss, said researcher Rajita Sinha, professor of psychiatry at Yale Medical School and director of the Yale Interdisciplinary Stress Center.

Yale researchers asked 103 healthy volunteers ages 18 to 48 to fill out questionnaires to quantify the amount of stress they'd had in their lives. Then participants underwent brain scans.

Subjects who had experienced recent stressful events, such as loss of a job, house or loved one, showed markedly lower amounts of gray matter in the prefrontal cortex, according to the study published in a recent issue of Society of Biological Psychiatry.

"The dendrites shrink with high levels of stress," Sinha said. "But all is not lost. The brain is dynamic and plastic. If the stress is dealt with in a healthy manner, dendrites grow back."

A healthful manner includes all the behaviors that help keep Alzheimer's at bay: keeping blood-sugar levels steady, exercising, building good personal relationships and engaging in positive activities, Sinha said.

Of course, another primary risk factor for Alzheimer's is getting older. Today, the chances of having Alzheimer's by the time a person reaches age 85 is 50 percent, Goodman said. That risk rises to 75 percent by age 100.

"Even if you do carry a genetic predisposition, lifestyle modifications in midlife can greatly reduce the risk and delay onset," Goodman said.

MORE WAYS TO WARD OFF ALZHEIMER'S

-Coffee drinkers and those who partake in a little wine each day also enjoy some protective benefits, said Gary Wenk, professor of neuroscience at Ohio State University, and author of "Your Brain on Food."

Long-term global studies have shown that those who consume five cups of coffee a day reduce their incidence of diabetes by 50 percent, and that protection increases as coffee consumption goes up.

-Other brain-healthy behaviors include keeping cholesterol levels, blood pressure and inflammation under control. "What's good for your heart is good for your brain," said Ira Goodman, a [neurologist](#) who conducts Alzheimer's studies at Compass Research in Orlando, Fla.

-Patients who've taken statins for years to control their cholesterol seem to have some protection, as do those who keep their blood pressure down, with or without medication, Wenk said.

-Large epidemiological studies have suggested that anti-inflammatory medications also help. "Those who developed arthritis early and began taking nonsteroidal anti-inflammatories were at lower risk of developing Alzheimer's," Wenk said.

-Exercising your body and your brain also proves protective. "The more you learn, the more synapses you make," Goodman said. "Brain degeneration involves the breaking down of synapses, so the more you

have the longer the [brain](#) takes to break down. This is why we think people who are highly educated have a lower incidence of Alzheimer's."

-Socializing with friends and being active in your faith also help, researchers say.

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