A University of Florida study published this week in the Archives of Internal Medicine reveals that older adults diagnosed with the type 2 form of the disease are twice as likely as their peers to suffer from depression.

An estimated 21 percent of seniors have the disease, according to the American Diabetes Association, and 1.5 million new cases are diagnosed each year. People with diabetes are at increased risk for developing heart disease and stroke, as well as kidney disease, blindness, dental disease and a host of other conditions.

UF researchers say depression may be next on the list. Doctors have noticed for some time that it is more common among patients with the disease, but researchers have debated the cause-and-effect relationship for years. People with diabetes may suffer hormonal imbalances that predispose them to depression. On the other hand, depression is associated with physical and behavioral factors such as obesity and poor diet that some say could be enough to trigger diabetes in the elderly.

The question of which ailment came first - diabetes or depression - has remained a mystery until now.

"This is the first study to evaluate diabetes as a risk factor for the onset of depression in older persons," said study author Matteo Cesari, M.D., Ph.D., a geriatrician in UF's Institute on Aging. "It's likely we are looking at a vicious, self-feeding cycle: Diabetes causes depression, which may reduce adherence to diabetic treatment, therefore worsening the diabetic condition, and so on."

The researchers evaluated 2,500 healthy patients aged 70 to 79 over a six-year period to determine if adult-onset diabetes is a risk factor for depression. The participants were enrolled in the Health, Aging and Body Composition study, an ongoing program sponsored by the National Institute on Aging that is based in Memphis, Tenn., and Pittsburgh. UF researchers, who collaborated with Health ABC investigators at six other universities in the U.S. and Europe, discovered that people with diabetes are indeed twice as likely to suffer from recurrent depression later in life. The risk is slightly higher for those who don't stick to recommended diet and treatment regimens.

About 23 percent of the study participants had diabetes, and nearly two-thirds of those patients had unhealthy blood sugar levels. The study also revealed that diabetics with high blood sugar also had elevated levels of an inflammatory marker called interleukin-6 that has been associated with depression.

"There may be a direct biological link between diabetes and depression," said Marco Pahor, M.D., director of the UF Institute on Aging and chairman of the College of Medicine's department of aging and geriatrics. "We know that depression is linked to proinflammatory cytokines, for one. Diabetes may be one of the triggers that causes depression."
Lack of exercise and an unhealthy diet appeared to be key factors that contribute to depression in people with diabetes, researchers found. "Obesity and physical performance are the most important mediators in the relationship between diabetes and depression reported in the study," Cesari said. "It is noteworthy that both are related to poor health status and poor quality of life."

To avoid feeling melancholy later in life, the UF researchers said people with diabetes should take extra care to control their blood sugar levels by maintaining a healthy diet, exercising regularly and remembering to take prescribed medications. "Diabetes is a preventable condition. Right now, we are facing a national epidemic because of obesity and a sedentary lifestyle," Pahor said. "Inspiring a change in lifestyle is an important way that physicians can help patients avert depression and other complications of diabetes."

Depression can be a slippery slope. Patients overwhelmed by sadness are more likely to abandon healthy eating habits and become less active, the researchers said. The study highlights the need for doctors to prevent the onset of diabetes by encouraging healthy decisions regarding diet, exercise and medication.

"If diabetes is already present, the careful monitoring of this condition and the control of (blood sugar) levels are particularly important to avoid future negative health-related events, including the potential onset of depression," Cesari said.

Although physicians sometimes overlook depression in the elderly, the National Institute of Mental Health reports that the rate of suicide deaths in the older population exceeds that of the general population.

"The research showing that diabetes has an independent effect on the onset of new depression is an important finding," said Jack Guralnik, M.D., Ph.D., chief of the laboratory of epidemiology, demography and biometry at the National Institute on Aging. "Physicians caring for older diabetic patients need to be particularly observant to identify the onset of depression so that they can initiate early treatment."

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