

Anemia may affect the mind

Doctors have long known of the connection between anemia and physical ailments like fatigue and muscle weakness. Now researchers at Johns Hopkins believe there is a relationship between anemia and mental health, too.

Anemia is a condition in which blood is deficient in oxygen-rich red blood cells, hemoglobin or total volume.

Quoted in a news release, Dr. Paulo Chaves, an assistant professor at The Johns Hopkins University School of Medicine in Baltimore, said, "Our work supports the notion that mild anemia may be an independent risk factor for so-called executive-function impairment in older adults."

"If further studies confirm that's true, this could mean that correction of anemia in these patients might offer a chance to prevent such a cognitive decline," he said.

Reporting on the research in the September issue of The Journal of the American Geriatrics Society, the Hopkins investigators went looking for such an effect because previous studies showed that age-related declines in the brain's so-called executive function – problem solving, planning, assessing dangers, following up on important activities – lead to declines in self-sufficiency, according to the news release.

"Executive function impairment, which happens often before memory loss occurs, may happen early on in the process of becoming unable to carry on with instrumental day-to-day living activities, such as shopping, cooking, taking medications, paying bills, walking, etc.," Dr. Chaves explained.

Dr. Chaves and his team gave three psychological tests commonly used to evaluate executive function to 364 women, all between 70 and 80 years old, who were living in Baltimore. Approximately 10 percent had anemia, which was of mild intensity.

Some 15 percent of those with the worst results on all three of the tests were anemic, compared to only 3 percent who scored best. Those with anemia were four to five times more likely to perform the worst on the executive function tests, compared to those with normal blood hemoglobin, after taking into account the

effect of other factors that affect cognition, such as age, education and existing diseases.

“These preliminary results don’t prove that anemia causes impaired executive function, nor indicate that treatment of anemia would necessarily lead to better executive function,” Dr. Chaves said. “However, they are compelling enough to serve as a roadmap for continued research.”

How anemia could affect thinking remains to be determined. It could be because it chronically diminishes the supply of oxygen to the brain. Another view proposes that the fatigue accompanying anemia leads to inactivity and the loss of aerobic-fitness benefits to the prefrontal cortex.