alzheimer's association

ALZHEIMER'S AND PUBLIC HEALTH SPOTLIGHT: HEART HEALTH AND BRAIN HEALTH

What is the connection between heart health and brain health?

Growing evidence suggests a close link between the health of the heart and the health of the brain. The brain is nourished by one of the body's richest networks of blood vessels. With every beat, the heart pumps about 20 to 25 percent of the blood to the head, where brain cells use at least 20 percent of the food and oxygen carried by the blood in order to function normally. As a result, many factors that damage the heart or blood vessels may also damage the brain – and may increase the risk for developing Alzheimer's disease and other dementias.

Some autopsy studies show that as many as 80 percent of individuals with Alzheimer's disease also have cardiovascular disease. This may be a key to understanding why some people who develop plaques and tangles on the brain – the hallmark of Alzheimer's disease – do not develop the symptoms of Alzheimer's. Autopsy studies suggest that plaques and tangles may be present in the brain without causing symptoms of cognitive decline unless the brain also shows evidence of vascular disease.

What are some of the specific factors that may put the brain at risk?

Some of the factors for which there may be a heart-brain health connection include:

- *Smoking:* There is fairly strong evidence that current smoking increases the risk of cognitive decline and possibly also dementia, and that quitting smoking may reduce the associated risk to levels comparable to those who have not smoked.
- *Diabetes*: Diabetes is associated with lower cognitive performance, and there appears to be strong, but not conclusive, evidence for an association between diabetes and dementia.
- *Obesity:* Mid-life obesity increases the risk of cognitive decline and may also be associated with an increased risk of dementia.
- *High Blood Pressure:* High blood pressure, or hypertension, especially in midlife, has been shown to be associated with a higher risk of cognitive decline. Some evidence has also shown that medicine for treating high blood pressure may be effective in reducing the risk of decline.

How about the converse: will keeping my heart healthy keep my brain healthy?

What's good for your heart may in fact be good for your brain, too. Physical activity is one such factor that not only protects the heart but improves cognitive function and may also protect against dementia. And, some emerging evidence suggests that consuming a heart-healthy diet may also protect the brain.

How can the public health community use this information?

Many cardiovascular disease risk factors are modifiable – that is, they can be changed to decrease the likelihood of developing cardiovascular disease. Many experts believe that controlling cardiovascular risk factors may be the most cost-effective and helpful approach to protecting brain health. In fact, some researchers have suggested that the improved cardiovascular health of the population in the last 25 years has had a spillover effect by also reducing the incidence of dementia. Thus, reducing the burden of diabetes, cardiovascular disease, and obesity may help protect against Alzheimer's disease and other dementias. By including brain health promotion messages in existing heart-health campaigns, the public health community may help reduce *both* the incidence of chronic cardiovascular conditions and future cognitive decline.

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