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:

- *High Blood Pressure:* High blood pressure, or hypertension, especially in midlife, has been shown to be associated with a higher risk of developing dementia. Research shows that medicine for treating high blood pressure is effective in reducing the risk of decline, but the effect is likely dependent on age, with the most benefit in midlife.
- *High Cholesterol*: High cholesterol in midlife has been associated with increased risk of dementia, and Alzheimer's disease specifically, by as much as two times. Treatment of cholesterol with statins in midlife has been associated with reduced risk of dementia.
- *Diabetes*: Diabetes is associated with an increased risk of cognitive decline, mild cognitive impairment, and dementia, including Alzheimer's disease. Treatment for diabetes has not been shown to lower the risk.

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 by protecting the heart may also protect the brain. And, emerging evidence suggests that consuming a heart-healthy diet may be associated with a reduced risk of developing Alzheimer's and other dementias.

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. 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.