

Lower risk of heart disease in women with great dental care, study shows

October 1 2010, By Sarah Yang

A new study led by a University of California, Berkeley, researcher could give women a little extra motivation to visit their dentist more regularly. The study suggests that women who get dental care reduce their risk of heart attacks, stroke and other cardiovascular problems by at least one-third.

The analysis, which used data from nearly 7,000 people ages 44-88 enrolled in the Health and Retirement Study, did not find a similar benefit for men.

Published online Sept. 29 in the journal [Health Economics](#), the study compared people who went to the dentist during the previous two years with those who did not. The findings add to a growing body of research linking [gum disease](#) with risk factors for heart disease and stroke.

"Many studies have found associations between dental care and cardiovascular disease, but our study is the first to show that general dental care leads to fewer heart attacks, strokes, and other adverse cardiovascular outcomes in a causal way," said study lead author Timothy Brown, assistant adjunct professor of health policy and management at UC Berkeley's School of Public Health.

In the world of health and medical studies, causality is typically determined through randomized controlled trials in which two or more groups of people are essentially equal, except for the receipt of a treatment or intervention, such as a new drug, a periodontal procedure or

a health education class. The group that did not receive the treatment — the control group — is compared with the group that did. Differences in outcomes between the groups are attributed to the treatment.

But randomized controlled trials are not always possible, so researchers sometimes turn to a statistical approach called the method of instrumental variables to rule out other potential factors that could account for different outcomes between groups. The use of instrumental variables is common among economists to evaluate the effects of economic policies, but it is less well-known in the clinical setting.

"While relatively short randomized controlled trials of specific types of dental treatment are possible, we can't run long-term randomized controlled trials of whether general dental care reduces cardiovascular disease events like heart attacks and strokes," said Brown, a health economist. "Individuals randomized to the treatment group would enjoy general dental care and those randomized to the control group would get no dental care at all. Many, if not most, people in the control group would simply get dental care on their own, destroying the experimental design, and making the results of the experiment worthless. The method of instrumental variables allows us to avoid this problem."

The method helped researchers rule out self-selection bias, or the possibility that people who seek out dental care are different — perhaps healthier in general — than those who don't.

Data from the Health and Retirement Study had been collected every two years from 1996 to 2004. This longitudinal study followed the same individuals over time, and each biennial survey included questions on whether subjects had visited the dentist and whether they had experienced a [heart attack](#), stroke, angina or congestive heart failure during the prior two years. Deaths from heart attacks or strokes were also included in the analysis. The study took into account other risk

factors, such as alcohol and tobacco use, high blood pressure and body mass index.

The fact that men and women did not benefit equally from dental care did not completely surprise the researchers. "To my knowledge, previous studies in this area have found that the relationship between poor oral health and cardiovascular disease markers varies by gender, but none have examined differences between men and women with regard to actual cardiovascular disease events," said Brown, who is also associate director of research at UC Berkeley's Nicholas C. Petris Center on Health Care Markets & Consumer Welfare.

"We think the findings reflect differences in how men and women develop cardiovascular disease," said study co-author Dr. Stephen Brown, a first-year obstetrician/gynecologist resident at the West Virginia University Charleston Division School of Medicine. "Other studies suggest that estrogen has a protective effect against heart disease because it helps prevent the development of atherosclerosis. It's not until women hit menopause around age 50 to 55 that they start catching up with men."

The study authors suggest that for [dental care](#) to have a protective effect, it should occur early in the development of [cardiovascular disease](#).

The researchers did not have data on the type of procedures used during the dental visit, but they pointed to other studies that indicated three-fourths of older adult dental visits involved preventive services, such as cleaning, fluoride and sealant treatments.

Oral health experts recommend twice-yearly visits to the dentist, as well as brushing and flossing at least twice a day. Those wearing dentures should make sure they stay clean to prevent the growth and buildup of plaque and bacteria.

The paper was also co-authored by Erin dela Cruz, a research assistant at the RAND Corporation, who was a graduate student researcher at the Petris Center at the time of the study.

Provided by University of California - Berkeley

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