

# Programs in the US and Taiwan result in reduced lifetime cardiovascular risk

September 14 2015

---

One in four middle-aged adults who survive to age 85 will develop heart failure, according to current estimates. Intervention programs to improve lifestyles are widely advocated, but do they actually work? Investigators in the U.S. and Taiwan independently examined programs that may reduce cardiovascular risk and concluded that both programs will reduce lifetime risk of heart failure. Results are reported in *The American Journal of Medicine*.

A group of American investigators estimated whether greater adherence to the American Heart Association's (AHA) Life's Simple 7 is associated with lower [lifetime risk](#) of heart failure and greater preservation of [cardiac structure](#) and function.

"Our study demonstrates that greater adherence to the AHA's Life's Simple 7 in middle age is associated with a lower lifetime occurrence of heart failure and greater preservation of cardiac structure and function,' explained lead investigator Aaron R. Folsom, MD, of the Division of Epidemiology & Community Health, School of Public Health, University of Minnesota. 'To lessen the public health burden of heart failure, cardiovascular disease, and potentially, other chronic diseases, health professionals need to encourage the public to optimize lifestyle-related risk factors before middle age."

AHA recommends that Americans follow Life's Simple 7, which describes ideal, intermediate, and poor levels of cardiovascular disease risk factors or behaviors: smoking, body mass index, physical activity,

diet, total cholesterol, blood pressure, and fasting serum glucose. The Atherosclerosis Risk in Communities (ARIC) Study documented that the number of ideal Simple 7 factors achieved is associated strongly and inversely with later incidence of total cardiovascular disease, heart failure, and cancer. Yet, no publication has specifically addressed the degree to which following this plan might lower lifetime heart failure risk or preserve cardiac structure and function in old age.

Investigators studied the population-based ARIC Study of 13,462 adults who were aged 45-64 years in 1987-1989. From 1987-1989 risk factor measurements, they created a Life's Simple 7 score (range 0-14, scoring two points for ideal, one point for intermediate, and zero points for poor components). They identified 2,218 incident heart failure events using surveillance of hospital discharge and death codes through 2011. In addition, they echocardiographed 4,855 participants free of clinical cardiovascular disease in 2011-2013, from which they quantified left ventricular hypertrophy and diastolic dysfunction.

Approximately 25% of the participants developed [heart failure](#) through age 85 years, but the risk was just 14.4% for those with an optimal middle-age Life's Simple 7 score of 10-14 compared with 26.8% for participants with a score of 5-9 (average), and 48.6% for a score of 0-4 (inadequate).

In another study conducted in Taiwan, researchers evaluated the impact of participation in the Diabetes Shared Care Program (DSCP) on the risk of cardiovascular disease events. This program is an integrated diabetes care model designed to increase the quality of diabetes care in Taiwan. Diabetic patients may join this program of their own accord or they may be enrolled by a qualified physician, as long as they fulfill the recruitment criteria. Because the efficacy of this program is unknown, investigators evaluated whether participating patients had reduced risks of cardiovascular events, including coronary heart disease, stroke, and all-

cause mortality.

'We found that participation in the DSCP was associated with lower risks of cardiovascular events, stroke, and all-cause mortality,' stated lead investigator Chien-Ning Huang, MD, PhD, of the Division of Endocrinology and Metabolism, Chung Medical University Hospital, and the Institute of Medicine of Chung Shan Medical University, Taichung, Taiwan.

Data on 120,000 randomly selected diabetes patients, who had been diagnosed between January and December 1999, were obtained from Taiwan's National Health Insurance Research Database. DSCP participants received integrated care from a physician, diabetes educator, and dietitian. Non-DSCP participants visited a physician but did not receive instruction from a diabetes educator or dietitian.

A total of 41,608 patients were enrolled in this study and 4,458 patients who participated in the DSCP for more than one year were selected. The investigators followed these patients until their first hospitalizations due to cardiovascular events.

Participation in DSCP was associated with a 14% reduction of [cardiovascular disease](#) events, a 16% reduction of stroke risk, and a 22% reduction of all-cause mortality. Male patients who were older, with a history of hypertension, chronic lung disease, and/or those who were prescribed insulin secretagogues or insulin tended to have higher cardiovascular risks. However, improved cardiovascular outcomes were seen in patients treated with biguanides, alpha-glucosidase inhibitors, and thiazolidinediones.

**More information:** "American Heart Association's Life's Simple 7: Avoiding Heart Failure and Preserving Cardiac Structure and Function," [dx.doi.org/10.1016/j.amjmed.2015.03.027](https://doi.org/10.1016/j.amjmed.2015.03.027)

"The Diabetes Shared Care Program and Risks of Cardiovascular Events in Type 2 Diabetes," DOI: [dx.doi.org/10.1016/j.amjmed.2015.03.025](https://doi.org/10.1016/j.amjmed.2015.03.025)

Provided by Elsevier

Citation: Programs in the US and Taiwan result in reduced lifetime cardiovascular risk (2015, September 14) retrieved 3 May 2024 from <https://medicalxpress.com/news/2015-09-taiwan-result-lifetime-cardiovascular.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.