HeartHeadlines
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Promise Institute for HEART HEALTH NUTRITION

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Dear Health Care Professional,

A study published in *Circulation* (profiled below) shows that the lifetime risk of developing cardiovascular disease (CVD) is among the highest for any disease. The study also found that adding lifetime risk estimation in addition to the current 10-year risk estimation could substantially improve overall understanding of contributors to CVD. In fact, almost half of all Americans will develop heart disease in their lifetime. The presence of two or more risk factors at age 50 markedly increased lifetime CVD risk to 69% in men and 50% in women. To help beat these challenging statistics, healthcare providers play a critical role in educating and empowering their patients to take preventative action from an early age.

Please read on to learn more about a recent study that focuses on the overall lifetime risk of CVD in the U.S.

Best regards,

Penelope Clark, MS, RD
Promise Institute for Heart Health Nutrition
PromiseInstitute.org

Prediction of lifetime risk for cardiovascular disease

Framingham Heart Study researchers published the first ever study estimating the overall lifetime risk for cardiovascular disease (CVD) in the February 14, 2006 issue of the American Heart Association journal, *Circulation*. The researchers reviewed medical records from nearly 8,000 participants in the Framingham Heart Study who were free of CVD at age 50, and then followed up to determine whether CVD problems developed in subsequent years. This data may be useful as an adjunct to short-term risk assessment (such as by the **Framingham 10-year risk assessment tool**) in encouraging patients to make the lifestyle changes required to decrease overall CVD risk.

The lifetime risks for CVD are among the highest published for any disease to date; more than half of all men and nearly 40% of women in the United States will develop heart disease in their lifetime.

The presence of two or more risk factors (e.g., diabetes, smoking, increased blood pressure and high levels of cholesterol) at age 50 markedly increased lifetime CVD risk to 69% in men and 50% in women **(Figure 1)**. In contrast, those individuals with an optimal risk factor profile at age 50 years had a remaining lifetime CVD risk of only 5% in men and 8% in women and survived longer after age 50 (>39 versus 28 years in men, >39 versus 31 years in women). The significance is that prevention at earlier ages through identification and treatment of these risk factors can lead to substantially improved quality of life and survival from CVD.

This is the first study to quantify lifetime risk of multiple CVD risk factors. This new information highlights the actual lifetime risk as substantially higher than first thought from Framingham 10-year risk data. Among individuals who already have more than one intermediate [see **Figure 1** with definition of criteria for levels of risk factors] or major risk factor at 50 years of age, the authors suggest that "aggressive global risk factor modification should be considered."

One of the most striking findings of this study is the impact of diabetes on CVD risk. The presence of diabetes at 50 years of age conferred a lifetime risk for CVD of 67% in men and 57.3% in women. This is more than double the CVD risk predicted from the Framingham 10-year risk data. Patients with diabetes typically have multiple CVD risk factors co-existing with their diabetes, so special attention should be paid to these individuals. Since diabetes is currently increasing at alarming rates, prevention and treatment of diabetes will be essential to improving lifetime cardiovascular health and survival.

Interestingly, while smoking is associated with a higher short-term risk for CVD, the overall risk of smoking was not additive to long-term survival related to CVD, since smokers have such high risk of mortality from noncardiovascular causes.

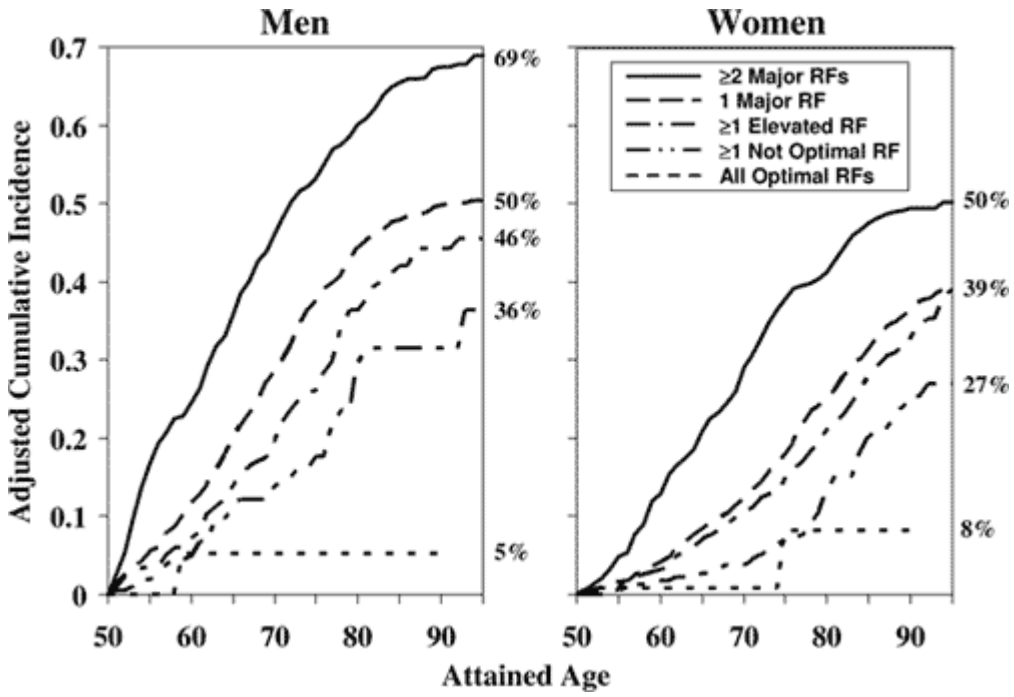
This study also affirms the importance of high blood pressure, elevated total and LDL cholesterol and low HDL cholesterol as major risk factors for CVD; which were associated with dramatic increases in lifetime risk for CVD and with significantly shorter median survival. A body mass index (BMI) of greater than 30 kg/m^2 at 50 years of age was associated with an increased lifetime risk for CVD and reduced median survival (by 3 – 4 years). Since lifestyle habits of diet and exercise contribute to development of these major risk factors, the authors of this study note “prevention efforts need to begin decades before 50 years of age because even the presence of a single major risk factor at 50 years is associated with substantially increased lifetime risk for CVD and markedly shorter survival” and that there is a need to consider lifetime risk in addition to short-term, 10-year risk, as recommended in the NCEP-ATP III guidelines.

Overall, this study’s findings underscore how critical it is to prevent the development of CVD risk factors earlier in life, and that public education and health policy can play an important role. The healthcare professional’s role in assisting patients to make beneficial changes in their lifestyle and health behaviors is crucial. It is hoped that these findings will galvanize public health and clinical efforts to beneficially impact the development of risk factors by increasing the awareness of the dangers of cardiovascular risk factors in the long term, improving risk factor communication with patients, and promoting efforts at primary prevention.

Additional salient points made by the authors:

- Recent data suggest a disturbing increase in the prevalence of CVD risk factors such as diabetes, obesity and the metabolic syndrome among the general population.
- Substantial deficit in awareness of CVD risk exists, and there is a paradoxical gap between perceived and actual personal risk. This demonstrates the need for greater education. Many individuals do not realize their actual risk of CVD, and think their risk for cancer is higher than that for CVD.
- National survey data indicate that between 1991 and 2001 the percentage of American adults with no known major risk factors declined from 42% to 36%, a trend driven by an increase in the prevalence of high cholesterol, hypertension, diabetes, and especially obesity. To reverse this trend, and increase the percentage of people enjoying healthy ageing, the healthcare professional’s role in educating patients about prevention of risk factors at a younger age is key.
- Every patient has a distinct CVD risk profile, based on genetics and existing risk factors, which should determine the need for primary prevention strategies.

Figure 1: Cumulative incidence of CVD adjusted for the competing risk of death for men and women according to aggregate risk factor (RF) burden at 50 years of age



Taken from Lloyd-Jones DM et al. *Circulation*, 2006;113(6):791-8.

Cumulative incidence of CVD adjusted for the competing risk of death for men and women according to aggregate risk factor (RF) burden at 50 years of age. The numbers at the right of each graph represent the adjusted cumulative incidence to 95 years of age or the lifetime risk for CVD. Optimal risk factors are defined as total cholesterol 4.65 mmol/L (180 mg/dL), blood pressure 120/80 mm Hg, nonsmoker, and nondiabetic. Not optimal risk factors are defined as total cholesterol of 4.65 to 5.15 mmol/L (180 to 199mg/dL), systolic blood pressure of 120 to 139 mm Hg, diastolic blood pressure of 80 to 89 mm Hg, nonsmoker, and nondiabetic. Elevated risk factors are defined as total cholesterol of 5.16 to 6.19 mmol/L (200 to 239 mg/dL), systolic blood pressure of 140 to 159 mm Hg, diastolic blood pressure of 90 to 99 mm Hg, nonsmoker, and nondiabetic. Major risk factors are defined as total cholesterol 6.20 mmol/L (240 mg/dL), systolic blood pressure 160 mm Hg, diastolic blood pressure 100 mm Hg, smoker, and diabetic.

Reference:

Lloyd-Jones DM et al. *Circulation*, 2006;113(6):791-8.

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