

Is the Framingham Coronary Heart Disease Absolute Risk Function Applicable To Aboriginal People?

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Abstract

Objective:

To determine the extent to which the Framingham function predicts the risk of coronary heart disease (CHD) in Aboriginal people.

Design and setting:

Cohort study in an Aboriginal community in the Northern Territory.

Participants:

687 Aboriginal people aged 20–74 years were followed up from a baseline examination in 1992–1995 through to 31 December 2003.

Main outcome measure:

First CHD events were identified through hospital and death records during the follow-up period.

Methods:

An original Framingham function was used to predict CHD risk according to the duration of follow-up and the values of traditional risk factors, which included age, sex, total cholesterol level, high-density lipoprotein (HDL) cholesterol level, blood pressure, the presence of diabetes, and smoking status. The predicted CHD incidence using the Framingham function was 4.4 per 1000 person-years, while the observed incidence was 11.0 (95% CI, 8.7–13.9) per 1000 person-years. The observed number of CHD events (68) was 2.5 times the number predicted (27) using the Framingham function. The observed incidence was about four and three times the predicted incidence for age groups < 35 and 35–44 years, respectively, and about twice the predicted incidence for those over 45 years of age. The Framingham function was a particularly unreliable predictor for women, especially younger women, in whom the observed CHD rate was 30 times the predicted rate.

Conclusions:

The Framingham function substantially underestimates the actual risk of CHD observed in Aboriginal people in a remote community, especially for women and younger adults. This implies that traditional risk factors have different degrees of impact and/or that other factors are contributing to risk. A population-specific risk function is needed.