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## Association of Skipping Breakfast With Cardiovascular and All-Cause Mortality

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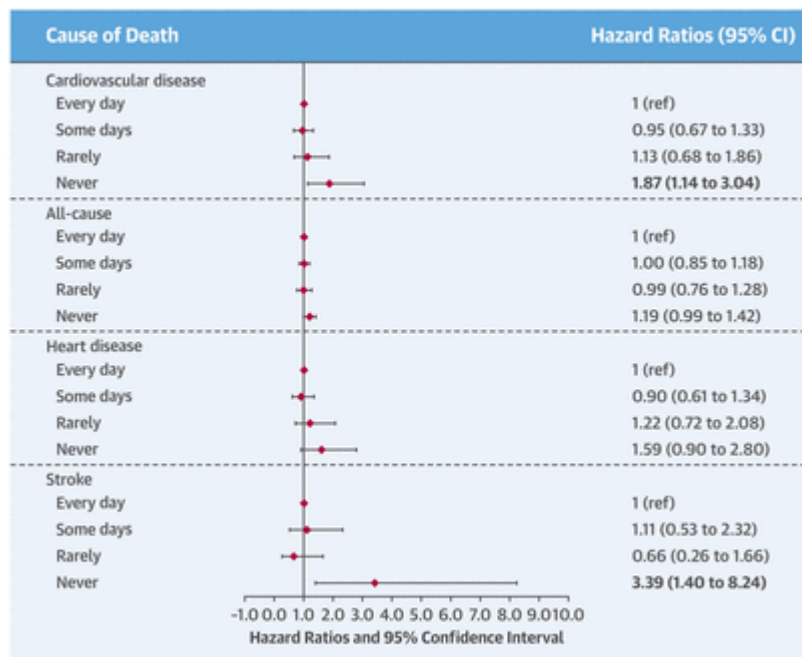
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**CENTRAL ILLUSTRATION: Hazard Ratios for Mortality From All Causes, Cardiovascular Disease, Heart Disease, and Stroke Based on Frequency of Breakfast Consumption**



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## Abstract

**Background** Skipping breakfast is common among U.S. adults. Limited evidence suggests that skipping breakfast is associated with atherosclerosis and cardiovascular disease.

**Objectives** The authors sought to examine the association of skipping breakfast with cardiovascular and all-cause mortality.

**Methods** This is a prospective cohort study of a nationally representative sample of 6,550 adults 40 to 75 years of age who participated in the National Health and Nutrition Examination Survey III 1988 to 1994. Frequency of breakfast eating was reported during an in-house interview. Death and underlying causes of death were ascertained by linkage to death records through December 31, 2011. The associations between breakfast consumption frequency and cardiovascular and all-cause mortality were investigated by using weighted Cox proportional hazards regression models.

**Results** Among the 6,550 participants (mean age 53.2 years; 48.0% male) in this study, 5.1% never consumed breakfast, 10.9% rarely consumed breakfast, 25.0% consumed breakfast some days, and 59.0% consumed breakfast every day. During 112,148 person-years of follow-up, 2,318 deaths occurred including 619 deaths from cardiovascular disease. After adjustment for age, sex, race/ethnicity, socioeconomic status, dietary and lifestyle factors, body mass index, and cardiovascular risk factors, participants who never consumed breakfast compared with those consuming breakfast everyday had hazard ratios of 1.87 (95% confidence interval: 1.14 to 3.04) for cardiovascular mortality and 1.19 (95% confidence interval: 0.99 to 1.42) for all-cause mortality.

**Conclusions** In a nationally representative cohort with 17 to 23 years of follow-up, skipping breakfast was associated with a significantly increased risk of mortality from cardiovascular disease. Our study supports the benefits of eating breakfast in promoting cardiovascular health.

### **Key Words**

- all-cause mortality
- cardiovascular mortality
- skipping breakfast