

Traditional risk factors and premature acute myocardial infarction: insights from China Acute Myocardial Infarction registry

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INTRODUCTION

The rising trend of premature acute myocardial infarction (AMI) in China is a growing concern.

OBJECTIVE

This study aims to clarify the impact of traditional risk factors, including diabetes, hypercholesterolemia, hypertension, and smoking, on premature AMI and related mortality, using data from the China Acute Myocardial Infarction (CAMI) registry.

METHOD

- Data from the CAMI registry was retrospectively analyzed for adults with their first myocardial infarction. Outcomes included life expectancy free of AMI and mortality at 30 days and 2 years.
- Associations with risk factors (smoking, hypertension, diabetes, hypercholesterolemia) were examined by sex using inverse probability weighting.

RESULTS

1. Life Expectancy Reduction Due to Risk Factors

- Men:**
 - Life expectancy free of AMI decreased by **7 years** from **64.0 ± 13.0 years** to **56.6 ± 10.2 years** ($r = -0.137$; $P < 0.001$)
- Women:**
 - Life expectancy free of AMI decreased by **2 years** from **68.2 ± 12.5 years** to **66.2 ± 9.5 years** ($r = -0.022$; $P = 0.1046$)

2. Risk Factors for Premature AMI

- Significant Associations** (for women < 65 and men < 55):
 - Current Smoking:**
 - Men: RR = **2.10** (95% CI: 1.95–2.25)
 - Women: RR = **1.23** (95% CI: 1.02–1.48)
 - Hypercholesterolemia:**
 - Men: RR = **1.50** (95% CI: 1.40–1.61)
 - Women: RR = **1.32** (95% CI: 1.18–1.48)

3. Diabetes and 2-Year Mortality

- Increased Mortality Risk** in women with diabetes:
 - RR = **2.12** (95% CI: 1.55–2.90)

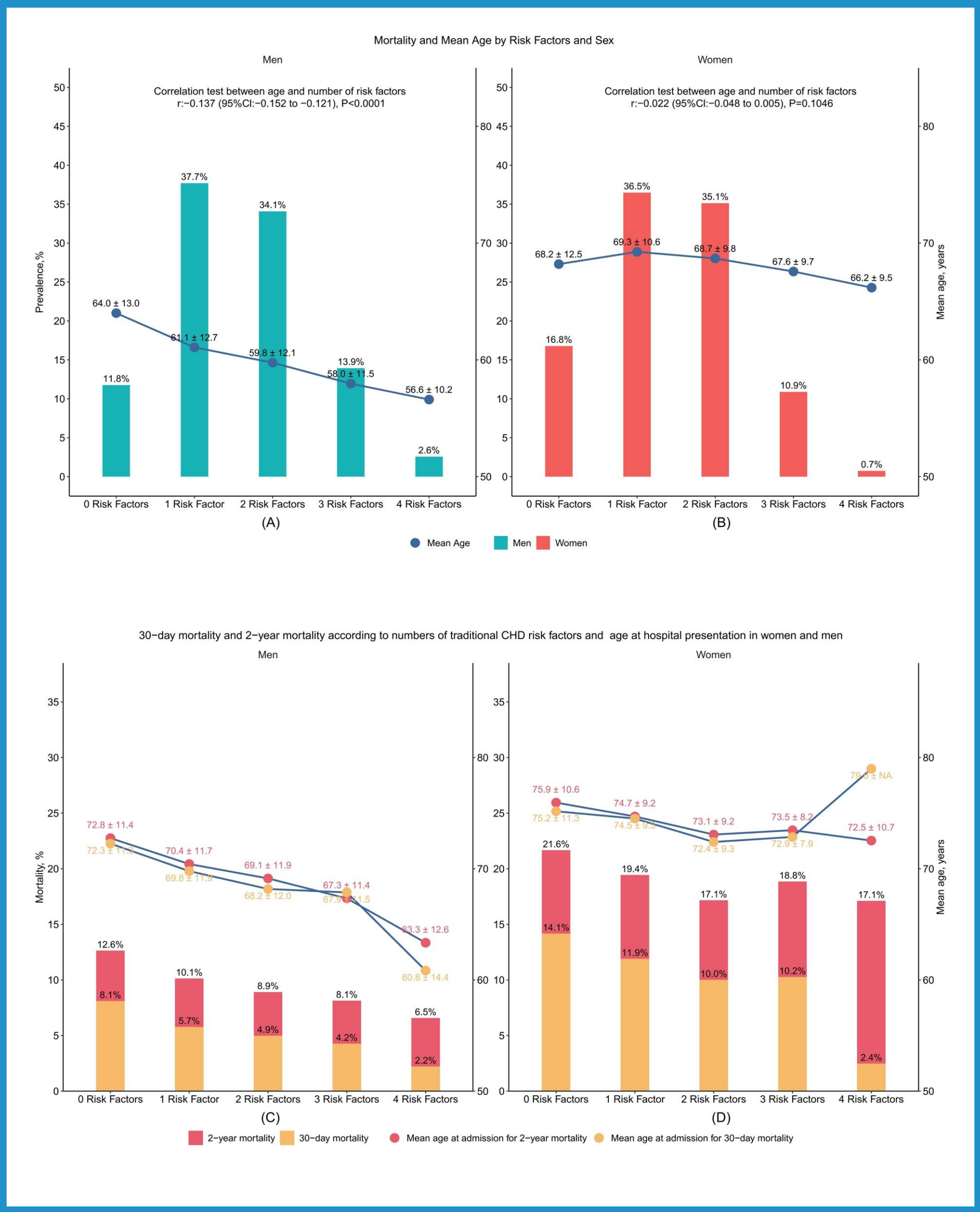


Fig.1. Prevalence of traditional coronary heart disease risk factors according to age at hospital presentation among women and men (panel A) and prevalence of traditional coronary heart disease risk factors and 30-day mortality and 2-year mortality according to age at hospital presentation in women and men (panel B).

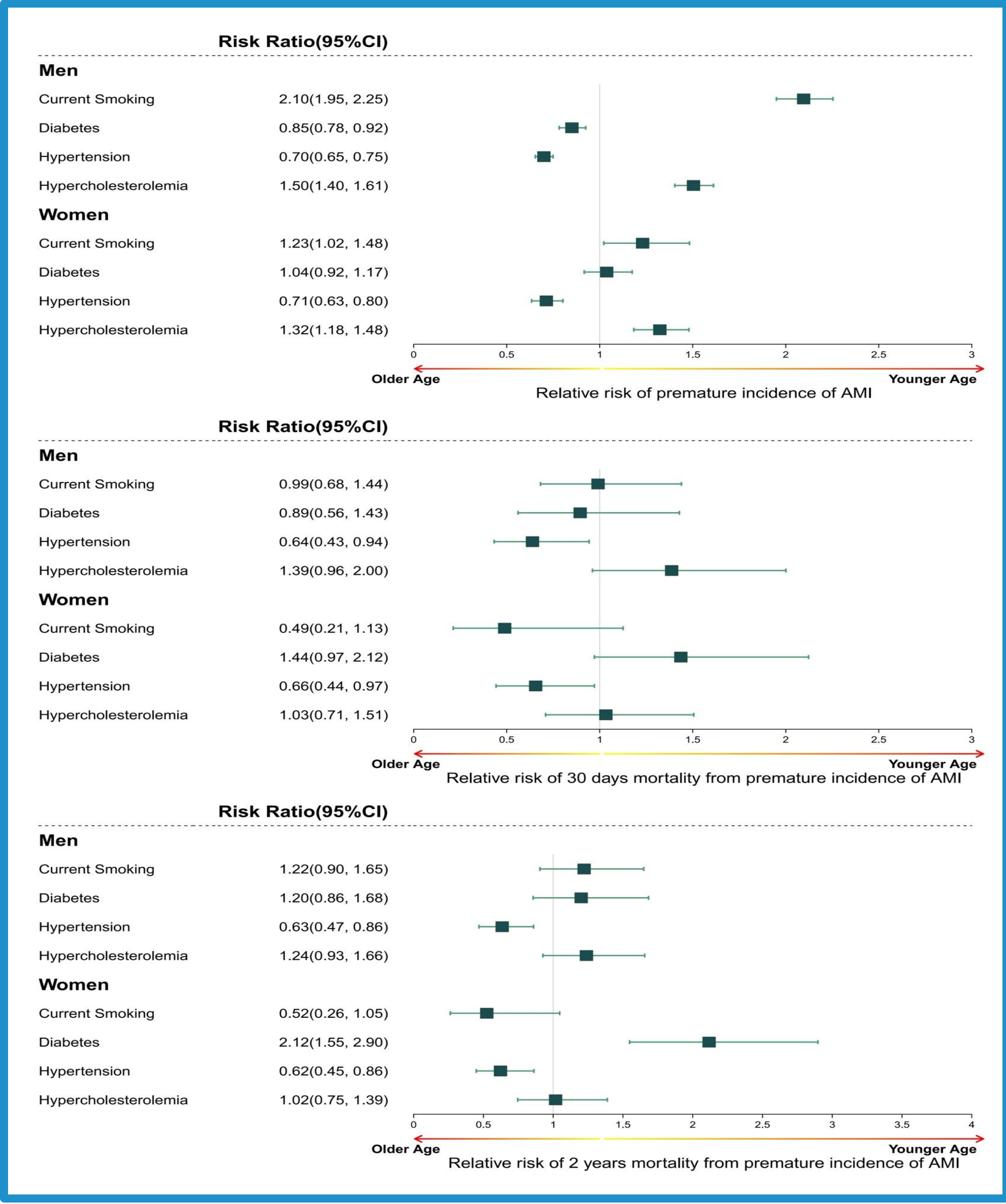


Fig.2. Traditional coronary heart disease risk factors and their association with premature acute myocardial infarction and death from premature acute myocardial infarction among women and men.

CONCLUSIONS

- Traditional risk factors significantly shorten life expectancy, especially in men.
- Smoking, high cholesterol, and diabetes are strongly linked to early heart attacks and increased mortality in women.
- Targeted public health measures are essential.

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