

Worldwide Trends in Cholesterol Levels

Almost 40 years of international data show that the highest mean non-HDL cholesterol levels shifted to East and Southeast Asia from high-income Western regions.

With the epidemiological transition (the movement toward noncommunicable disease with economic development), cardiovascular disease has emerged as a leading cause of death in countries with developing economies. The Non-Communicable Disease Risk Factor Collaboration, an international network of researchers, sought to characterize blood cholesterol trends worldwide to provide insight into changes in this risk factor.

The investigators pooled 1127 population-based studies, which reported measurements of blood lipids in 102.6 million people aged ≥ 18 . The studies stretched from 1980 to 2018. In 2018, the global age-standardized mean total cholesterol was 178 mg/dL, and the non-HDL cholesterol was 128 mg/dL. These mean cholesterol levels did not change much over the four decades of follow-up. The greatest decrease in non-HDL cholesterol occurred in high-income, mostly Western regions (in Europe, North America, and Australasia), whereas it increased the most in middle- or low-income countries in East and Southeast Asia.

The researchers calculated that elevated non-HDL cholesterol in 2017 caused almost 4 million deaths, accounting for one third of the deaths from ischemic heart disease and stroke. From 1990 to 2017, the number of deaths attributed to elevated non-HDL cholesterol increased by about 910,000; these deaths markedly decreased in Western countries while markedly increasing in Asian countries.

COMMENT

The authors conclude that there has been a repositioning of risk over the four decades studied, with high non-HDL cholesterol exacting a toll to a greater extent in Asia even as its toll is lessening in Western countries. Addressing cholesterol as a risk factor remains a major worldwide target for preventive interventions. — *Harlan M. Krumholz, MD, SM*

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