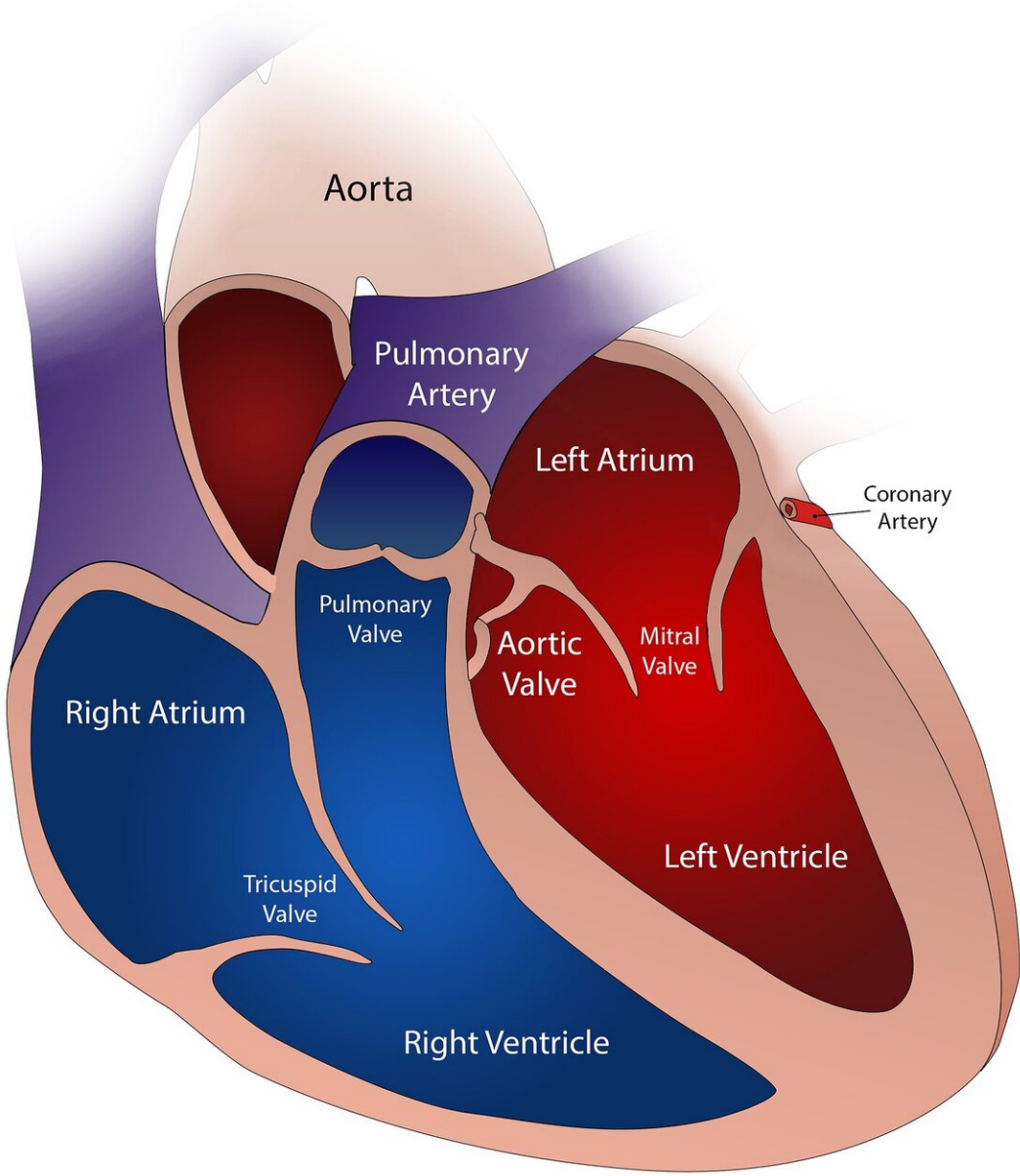


# **Over half of cardiovascular disease deaths worldwide occur in Asia**

June 15 2021

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The number of people dying from cardiovascular disease (CVD) in Asia is increasing rapidly, with over half of all CVD deaths globally in 2019 occurring in Asian countries, according to a state-of-the-art review paper published in the inaugural issue of *JACC: Asia*. The data demonstrates an urgent need to understand the burdens and epidemiological features of CVD in Asian countries to develop localized CVD prevention strategies to combat the epidemic.

From 1990 to 2019, the number of CVD deaths in Asia rose from 5.6 million to 10.8 million. Nearly 39% of these CVD deaths were premature, meaning they occurred in a person less than 70 years old, which was significantly higher than premature CVD deaths in the U.S. (23%). Most CVD deaths were due to ischemic heart disease (IHD) or stroke. According to the researchers, increasing CVD epidemics in Asia are due to demographic changes, socioeconomics, living environments, lifestyles, prevalence of CVD risk factors and capacities to prevent and treat CVD.

In this paper, authors reviewed data on CVD epidemiology in Asian countries from multiple sources and identified five epidemiological features in Asia: Continuously increasing CVD mortality rate; geographic differences in CVD mortality; regional differences in the dominant CVD subtype; countries that are in different transition stages of the CVD [epidemic](#); and the increasing epidemics and massive burdens of key modifiable CVD risk factors in most countries with inadequate capacities for management.

"Timely information on the burdens and epidemiological features of CVD in Asian countries is crucial to understanding the challenges and orienting the development of reasonable policies strategies and actions to combat the CVD epidemic," said Dong Zhao, MD, Ph.D., professor of preventive cardiology at the Beijing Institute of Heart, Lung and Blood Vessel Diseases at Beijing Anzhen Hospital, Capital Medical University,

and a deputy editor of *JACC: Asia*.

From 1990-2019, the proportion of CVD deaths among total deaths in Asia increased from 23% to 35%, and crude CVD mortality rates grew in both men and women. The rising crude CVD mortality rates indicate the increasing burden of CVD in Asian populations.

There were significant geographic differences in crude CVD mortality rates among Asian countries in 2019. The highest CVD mortality rate in Asia was in Georgia (810.7 per 100,000 population) and the lowest was in Qatar (39.1 per 100,000 population), representing a 20-fold difference.

While IHD and stroke are the most common causes of CVD in Asia, epidemics of these two types of CVD varied substantially between Asian regions and countries. IHD was the most dominant cause of CVD deaths in Central, Western and Southern Asia, whereas deaths from stroke were more common than IHD deaths in Eastern and Southeastern Asia. In China, the dominant subtype of CVD deaths has shifted from stroke to IHD. According to the authors, the underlying cause of the differences in the dominant CVD subtypes among Asian regions or countries is still not well understood.

The paper also compared the characteristics of CVD spectrums (the distributions of relevant disease categories in total deaths) in low-, middle- and high-income (or developed) Asian countries since countries at different stages of economic development may feature different transition stages of the CVD epidemic.

"It is critical to recognize the characteristics of different transition stages of the CVD epidemic in different Asian countries in order to guide the identification of priority issues in public health, resource allocation and research in these countries," Zhao said.

Most Asian countries are in the second stage of the rapidly increasing CVD epidemic. In these countries like China, CVD mortality rates are relatively high, with the proportion of CVD deaths among total deaths generally greater than 40%. Characteristics of CVD epidemics in high-income or developed countries feature the third stage of the epidemiological transition, with lower proportions of CVD deaths. In Japan and South Korea, the proportions of CVD deaths among total deaths decreased from 34.9% and 36.2% in 1990, to 26.6% and 24.3% in 2019, respectively.

According to the researchers, the increasing prevalence of CVD risk factors is a major modifiable cause of the rising CVD epidemics in Asia. These risk factors include dietary, smoking, dyslipidemia, diabetes and hypertension, among many others.

"The information summarized in this review provides a complete picture of CVD epidemiology in Asia, highlighting specific requirements for the development of localized CVD prevention strategies and research, and may illuminate not only the current but also future challenges faced by different Asian countries," Zhao said.

**More information:** *JACC: Asia*, [DOI: 10.1016/j.jacasi.2021.04.007](https://doi.org/10.1016/j.jacasi.2021.04.007)

Provided by American College of Cardiology

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