Cardiovascular Disease Prevention in South Asia

Gathering the Evidence

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The nations of South Asia are home to almost one-quarter of the world population in 2013, and the share is projected to increase in coming decades. The pace of economic development and social and lifestyle changes experienced in South Asian nations is very rapid, and an ongoing diaspora finds South Asian ancestry populations in all corners of the world, including the high-income world. Therefore, the health and welfare of South Asian populations determine a large portion of global health and burden of disease.

Although age-standardized rates of ischemic heart disease (IHD) may be higher in Eastern Europe and age-standardized stroke rates may be higher in East Asia, the highest absolute burden of cardiovascular disease (CVD) is borne by the South Asian region, partly because of South Asia's large population. Perhaps more importantly, CVD presents at younger ages in South Asia than in other world regions [1]. For national economies, this means a less productive workforce [2]. For families, this means impoverishment, especially because most families lack formal life or health insurance and must bear the social and financial debts of CVD either "out-of-pocket" or by making other sacrifices [3].

In this issue of *Global Heart,* Chowdhury Turin et al. [4] review the burden of CVD and CVD risk factors in South Asian populations. The review presents the evidence base for high IHD and stroke mortality rates observed recently in South Asia. Admirably, the report also points out gaps in current knowledge about the huge South Asian population—for example, almost no IHD incidence data are available, and current IHD prevalence measures are a poor substitute [5]. As cited in the review, population-based stroke incidence has been better measured, at least in India. INTERHEART (A Study of Risk Factors for First Myocardial Infarction in 52 Countries and Over 27,000 Subjects) and INTERSTROKE (A Study of the Importance of Conventional and Emerging Risk Factors of Stroke in Different Regions and Ethnic Groups of the World) established that unhealthy exposure to conventional risk factors leads to harm in South Asians just as in other world populations [6], but a number of novel cardiovascular risk factors—early childhood factors, adult metabolic abnormalities, household air pollution, and psychological and social factors—have been identified in South Asians, and deserve study as potentially modifiable cardiovascular disease determinants [7]. The review is among the first to include several countries from the entire region of South Asia; however, it is limited by not being a formal systematic review and study selection may have been unintentionally biased. Risk factor estimates are not age-standardized, and treatment prevalence is not specified, making it difficult to assess geographic patterns or temporal trends. Whereas the review emphasized similarities across these countries regarding the burden of CVD, it is important to keep in mind that variability in the prevalence of specific CVD subtypes and risk factors among the South Asian countries might limit generalizing data to the region as a whole.

Whereas CVD epidemiology evidence for South Asia is not presently perfect, the available evidence makes CVD prevention and control a priority for South Asia. The epidemic wave of CVD in South Asia was predicted more than a decade ago: What is to be done to prevent it? Universal health insurance and improved access to acute and chronic CVD treatments will be important, but primary and primordial prevention strategies are also necessary. Simply replicating the prevention programs of high-income nations may not be the best or even most feasible approach. Locally tailored interventions—for example, tailored to local dietary practices—may be needed.

To accomplish this would require robust and high-quality nutrition research in this region. However, as demonstrated by Khandelwal et al. [8] in this issue of *Global Heart,* given CVD burden and the urgent need for CVD prevention in South Asia, the volume of nutrition research generated from India is commensurately small, and the pace of nutrition research development has lagged behind China's. The investigators measured the volume and quality of nutrition research about India since the year 2000, and they cite examples of past nutrition studies that informed successful public health interventions. In the context of the epidemic of CVD affecting this region, and the current state of affairs with regard to nutrition research, they argue convincingly for improved nutrition sciences education and research support.

Recent randomized trial evidence has, for the first time, proved convincingly that dietary changes can lower cardiovascular disease risk [9]. Given the wide variety in dietary practices in the region, what are the South Asian equivalents of the "Mediterranean diet?" Only with investment in research and research training will we know the answer.

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