

## EDITORIAL COMMENT

# The Impact of Cardiovascular Disease Is Different Even Within Southeast Asia



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“**A** neighbor is better than a relative living far.” This is a Japanese proverb meaning that a stranger in the neighborhood is more reliable than a distant relative. In daily life, ties with the neighborhood are significant and create local characteristics in many ways. Lifestyle habits, for example, are its representative. Therefore, regional ties are of daily importance, and various measures are practiced on a regional basis. To develop various measures, data showing current status of the region is essential as a foundation.

Asia is one representative regional category.<sup>1</sup> However, even within Asia, the epidemiologic data are not uniform and there is diversity. Asia is usually divided into South Asia, Southeast Asia, and East Asia, and sometimes Central Asia and West Asia are counted as Asia. It is well known that epidemiological data is different among these regions of Asia.<sup>2</sup> Epidemiological data are important sources of evidence for various health measures, and one-size-fits-all measures that do not take into account such regional differences will not be efficient. However, there is no consistent definition of the regions in which to collect the data necessary to come up with effective measures. Southeast Asia is often used as a framework for regional segmentation in global epidemiological studies. Southeast Asia consists of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. There are differences among these countries in many respects, including climate, environment, food habits, religion, and economic conditions.<sup>3,4</sup> Life expectancy also varies among these countries.<sup>5</sup> It is fully expected that the position

of cardiovascular disease as a cause of death and the weighting of each risk factor for cardiovascular disease in each country will differ, and finding effective interventions will require an understanding of the actual situation in each country.

In this issue of *JACC: Asia*, Khetan et al<sup>6</sup> sought to determine the position of cardiovascular disease as a cause of death in Malaysia and Philippines, both of which belong to Southeast Asia.<sup>6</sup> Although life expectancy is 4 years higher in Malaysia than in Philippines,<sup>5</sup> mortality rates are higher in Malaysia among adults 35 to 70 years of age, which is the age group covered in this study. Khetan et al<sup>6</sup> also clarified that the impact of cardiovascular disease on mortality was higher in Philippines, and that both stroke and myocardial infarction occurred more frequently in Philippines than in Malaysia. These data are interesting and are expected to play major roles in the formulation of future health and welfare policies in both countries. This study found that 58% of mortality events were related to cardiovascular disease in Philippines, and that 36% were related even in Malaysia. These data suggest that increased efforts to combat cardiovascular disease in both countries would lead to a reduction in all-cause mortality.

Countermeasures against cardiovascular diseases can be largely divided into the treatment after suffering from cardiovascular diseases and the prevention to avoid cardiovascular diseases. The treatment strategy should basically conform to the guidelines, and there are few regional differences in major policies. Prevention is more effective than treatment, and many efforts have been made to identify risk factors to target for intervention in each cardiovascular disease.<sup>7,8</sup> However, it is easy to imagine that there are large regional differences in preventive measures. It is necessary to establish more homogeneous regions, identify the problems in each of these regions, and take measures. From this perspective, can a comparative study of Philippines and Malaysia be enough to issue effective measures for each citizen?

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The author attests they are in compliance with human studies committees and animal welfare regulations of the author's institution and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the [Author Center](#).

As shown in this study,<sup>6</sup> hypertension is one of the strongest risk factors of cardiovascular diseases, and it is well known that salt intake is significantly correlated to the development of hypertension. Japan is as small in land area as Philippines and Malaysia, but there are significant regional differences in salt intake even within the country.<sup>9</sup> Khetan et al<sup>6</sup> did not report the relationship between risk factors and the development of cardiovascular diseases in each of Philippines and Malaysia. Each country may be able to be further divided into several communities with different characteristics. Thus, it is not easy to generalize the relationship between risk factors and cardiovascular diseases found in this study to real-world clinical practice in each country. In addition, recent studies have reported the impact of socioeconomic factors on mortality or development of cardiovascular diseases.<sup>10,11</sup> Such important risk factors were not fully considered in this study, although the investigators did clarify the impact of education. The population of Philippines is 119 million, and that of Malaysia is 34 million. The number of study subjects of this study was 4,511 from Philippines and 15,761

from Malaysia. Therefore, the subjects of this study do not reflect the population proportions of the 2 countries, nor do the results of this study reflect the average image of the region consisting of these 2 countries.

Khetan et al<sup>6</sup> provided insights into the impact of cardiovascular diseases on mortality in Malaysia and Philippines, but risk factors for cardiovascular diseases in each country remain unclear. To take effective preventive measures against cardiovascular diseases in each country or each community of each country, further investigations await.

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