Fellow’s Voice

South Asian cardiovascular disease: Dispelling stereotypes and disparity

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ARGUMENT

Arguably, Apu Nahasapeemapetilon, the immigrant proprietor who ran the Kwik-E-Mart in the American animated television series The Simpsons, was the most famous South Asian person in US popular culture. Although positive perceptions have now replaced the negative stereotypes that were once applied to this minority character, another pervasive misconception is infiltrating our society. The message that poor South Asian heart health is due to a mixture of genetic, cultural, and lifestyle influences, is over-simplified and offers little in the way of a solution. The truth is, we are only starting to understand it.

South Asian individuals (ancestry from India, Pakistan, Bangladesh, Nepal, and Sri Lanka) have a higher proportional mortality rate from ischemic heart disease and cerebrovascular disease, typically earlier in onset, when compared with other ethnic groups. Despite successful domestic campaigns such as AHA’s Life’s Simple 7, Go Red for Women/Go Red Sari, and national prevention guidelines, an excess in athero- sclerotic cardiovascular disease (ASCVD) still remains in these individuals.

Risk assessment remains challenging largely because available risk algorithms have not been derived from or prospectively validated in South Asian adults living in North America. As such, population-specific risk assessment tools (Table 1A) unreliably estimate risk in this group. The UK-QRISK2 includes South Asian ethnicity, however, underestimates risk in women \cite{1}. The JBS3 risk score (Joint British Society for prevention of CVD) accounts for South Asian ethnicity, but also underestimates risk when considering the very small proportion (<2%) of South Asians adults included in the cohort \cite{2}. South Asians ethnicity is defaulted to “White” race when using the AHA/ACC Pooled Cohort Equations (PCE), resulting in risk underestimation. The 2018 AHA/ACC Multi-society cholesterol guidelines now include South Asian ethnicity as a risk-enhancer when considering the initiation of statin therapy \cite{3}.

The identification and modification of risk factors remains fundamental to the management of ASCVD. Specifically, considerations for South Asian patients should be given to: 1) a higher prevalence of diabetes and impaired glucose tolerance; 2) hypertriglyceridemia, low HDL-cholesterol, and elevated lipoprotein(a) [Lp(a)] levels; 3) increasing prevalence of overweight and obesity status (with lower body mass index thresholds), hypertension, and use of tobacco products; 4) low rates of physical activity; 5) family history of coronary heart disease status; and 6) risk tends to be higher in those who maintain traditional dietary customs, and those who fully embrace a Western diet \cite{4}.

But, you knew all of that.

As we await prospective ASCVD outcomes from ongoing studies such as from the Mediators of Atherosclerosis in South Asians Living in America (MASALA) Study \cite{4}, our group has sought to evaluate the cross-sectional relationship between coronary artery calcium (CAC), a robust predictor of future ACSVD events, with the PCE and various traditional and non-traditional risk markers, for the purpose of better understanding and improving risk stratification and management practices in this high-risk ethnic group. For example, our results suggest that the extent of ASCVD-risk overestimation using the PCE is greater among South Asian adults considered at low/intermediate risk than among White

\begin{table}[h]
\centering
\caption{Atherosclerotic Cardiovascular Disease Risk Assessment Tools.}
\begin{tabular}{|l|}
\hline
Framingham Risk Score \\
AHA/ACC Pooled Cohort Equations \\
Systemic Coronary Risk Evaluation \\
3rd Joint British Societies’ Risk Calculator \\
WHO Risk CVD risk prediction charts \\
UK QRISK2 \\
ETHRISK \\
UKPDS \\
NORRISK 2-SADia \\
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Collectively, we must act now to resist the negative connotation of poor cardiovascular outcomes in the South Asian community. Perhaps a stereotype we should strive for is to be the “model minority” for heart health.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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