Culture, diet, economic factors and more affect CVD risk among Asian Americans

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Asian Americans have significant differences in genetics, socioeconomic factors, culture, diet, lifestyle, health interventions and acculturation levels based on the Asian region of their ancestry that likely have unique

effects on their risk for heart disease and Type 2 diabetes, according to a new American Heart Association scientific statement published today in the Association's flagship, peer-reviewed journal *Circulation*.

While often considered as a single race and ethnic group for the purposes of scientific research and collecting health data, the differences in cardiovascular risk found among Asian Americans indicate data for individual subgroups is needed to better understand and manage health risks among Asian Americans. Acculturation level, which captures the degree to which people within the different subgroups have adopted some aspects of U.S. culture including lifestyle and diet or maintained the lifestyle linked to their ancestry, may also play a role.

These subgroups are broadly categorized by the geographic region of Asian descent and include South Asia (India, Pakistan, Sri Lanka, Bangladesh, Nepal or Bhutan); East Asia (Japan, China or Korea); Southeast Asia (Philippines, Vietnam, Thailand, Cambodia, Laos, Indonesia, Malaysia, Singapore, Hmong); and Native Hawaiian/Pacific Islander (Hawaii, Guam, Samoa or other Pacific islands).

It's estimated that Asian Americans make up 7.2% of the United States population and are the fastest-growing racial and ethnic group in the U.S., according to a Pew Research Center analysis of U.S. Census Bureau data from 2010-2019. They may be recent immigrants or come from families who have lived in the United States for multiple generations.

"This scientific statement highlights the lack of subgroup data among Asian Americans," said Tak W. Kwan, M.D., FAHA, chair of the scientific statement writing committee, who is chief of cardiology at Lenox Health Greenwich Village and a clinical professor of medicine at Northwell Health, both in New York City. "Examining Asian subgroups separately is crucial to better understand the distinctions among them,

how these differences translate into their risk of Type 2 diabetes and atherosclerotic disease, and how health care professionals may provide care and support in a culturally appropriate manner."

The new scientific statement is a follow-up to a 2010 American Heart Association Science Advisory call to action to seek data on the health disparities among Asian American subgroups, and a 2018 scientific statement addressing cardiovascular disease risk in South Asians (Asian Indian, Pakistani, Sri Lankan, Bangladeshi, Nepali or Bhutanese).

Varied rates for cardiovascular disease and Type 2 diabetes

Together, cardiovascular disease and Type 2 diabetes are the leading causes of death and disease in Asian American adults. Data on the rates of coronary artery disease (plaque build-up in coronary arteries feeding the heart muscle) among Asian Americans overall indicate a prevalence of 8% in men and about 3% in women. However, data for Asian American subgroups indicate wide variations in prevalence:

- The highest rate of coronary artery disease was among the Asian Indian American subgroup, with 13% for men and 4.4% for women.
- Among Filipino Americans, the rate was about 9% in men and approximately 4% in women.
- Among Chinese Americans, the rate was more than 6% for men and over 2% for women.
- Among Japanese Americans, the rate was nearly 7% for men and about 3% for women.
- Among Korean Americans, the rate was about 6% in men and nearly 2% in women.
- Among Vietnamese Americans, almost 6% of men and nearly

4% of women had coronary artery disease.

Hypertension is a leading risk factor for heart disease among Asian subgroups, and the data indicate those born outside of the U.S. had a higher prevalence of high blood pressure. Data from a study in New York found the prevalence of self-reported hypertension was 22.2%-27.1% among non-U.S. born Asian adults, mean age of 49.5 years. The highest prevalence of 27.1% was among South Asian immigrants—Asian Indian, Pakistani, Sri Lankan, Bangladeshi, Nepali or Bhutanese—and the lowest prevalence of 22.2% was among Chinese immigrants.

Stroke risk, particularly the risk of bleeding strokes, is also higher in Asian American adults in comparison to non-Hispanic whites in the U.S., and the strokes tend to be more severe and disabling. The increased risk of stroke is thought to be due to the higher incidence of hypertension. However, stroke rates vary greatly by subgroup, with the highest risk found among Filipino and Vietnamese men, and Japanese and Vietnamese women.

Estimates of Type 2 diabetes among Asian American adults and subgroups have primarily been derived from health system data, a small number of group comparison studies, and a few state and national surveillance surveys. The existing data suggest a general pattern of varied prevalence and risk of Type 2 diabetes among Asian American subgroups. A study including Asian Americans in the state of California reported the following subgroup data on Type 2 diabetes prevalence:

- Overall, Asian American adults had higher rates of Type 2 diabetes (range of 15.6%-34.5%) compared to non-Hispanic white adults (12.8%).
- Among Chinese Americans, the rate was 15.8%.
- Among Korean and Japanese Americans, rates were similar at

about 18%.
- Among Americans with Filipino ancestry, the rate was 31.9%.

Lifestyle contributors to heart disease and Type 2 diabetes risk

Diet. The statement divides Asian cuisines into three main regions: Southeastern Asian Diet, Southwestern Asian Diet and Northeastern Asian Diet. A chart details the dietary characteristics that may contribute to the increased risk of heart disease and Type 2 diabetes and offers suggestions to modify ingredients and/or cooking methods that may help to lower these risks. For example, coconut milk is a frequent ingredient in dishes in the Southeast Asian diet, resulting in a high intake of saturated fats; therefore, substituting low-fat coconut milk may be helpful. In other regions, the cultural foods are preserved or deep fried, which often means high levels of sodium and/or fat. White rice is a common staple in several Asian diets and may contribute to low fiber intake, therefore brown rice is a suggested option. Across Asia, foods are often cooked with palm or coconut oils, which are high in saturated fats, so non-tropical oils, such as olive, canola or other vegetable oils, are substitutions to consider.

Tobacco use. Tobacco use is a major modifiable risk factor for heart disease, and rates of tobacco smoking differ by Asian subgroup and acculturation level. For example, Filipino American adults have higher prevalence of tobacco use and obesity associated with higher acculturation level, but this is not the case with other Asian subgroups. There is limited data on which smoking cessation strategies may be most successful for specific Asian subgroups. Family characteristics, social networks and community resources are important considerations when developing culturally relevant smoking prevention and cessation programs.

Physical activity. Increasing the frequency of and time spent participating in moderate to vigorous physical activity may decrease the risk of heart disease and Type 2 diabetes, however, there is limited information about the usual levels or types of physical activity by Asian subgroups. Asian Americans who are less acculturated tend to engage in lower levels of moderate to vigorous physical activity. Interventions aimed at increasing physical activity should include ways to reach non-English speaking Asian immigrants and recent immigrants.

Sleep. Adequate sleep is now recognized as an integral factor in cardiovascular health as part of the Association's Life's Essential 8, a list of health behaviors and health factors that support optimal cardiovascular health. Although there is limited information on sleep patterns among Asian Americans, the available research highlights the stress of adapting to a new culture as a contributor to sleep disturbance. Intervention programs aimed at decreasing the stress of acculturation for recent immigrants has the potential to decrease the impact of poor sleep.

Improving patient care

Even with the limited data available, some important differences among Asian American subgroups are clear:

- Existing cardiovascular disease risk calculators (which are based on data validated in non-Hispanic Black adults and non-Hispanic white adults and less extensively studied in Asian Americans) may underestimate the risk of Type 2 diabetes and heart disease in South Asian adults, those with lower socioeconomic status or those with chronic inflammatory diseases (e.g., rheumatoid arthritis, psoriasis, HIV/AIDS). These tools may also overestimate the CVD risk among East Asians, those with higher socioeconomic status or those who are already participating in preventive health care services.

- Nutritional counseling and education may be improved with an understanding of acculturation by Asian American subgroups, as well as cultural and dietary differences among the subgroups. Research to detail the different diets of each subgroup may lead to more tailored and meaningful suggestions for food choices and heart-healthy menu planning.

Filling the information and research gaps

The statement outlines areas to consider for strengthening the data about Asian American adults:

- Include disaggregated Asian American subgroups in clinical trials and government-sponsored studies.
- Standardize ways of collecting ethnic and subgroup data for Asian Americans for national health systems, surveys and registries. National surveillance surveys should also consider oversampling Asian Americans to increase representation for the various subgroups.
- Research that analyzes changes over time in body mass index (BMI), blood pressure and blood lipids is an important area for future investigation of Type 2 diabetes and cardiovascular risk prediction for Asian Americans. Most current data examine BMI cross-sectionally, or at a single point in time, rather than measuring long-term change patterns.
- There is little data about medication interventions for Asian American adults with Type 2 diabetes and cardiovascular disease. Because of the high prevalence of Type 2 diabetes among Asian Americans, studies that assess medication efficacy and safety in Asian American subgroups are needed.
- In addition, there is limited research about complementary and alternative treatments that may be more common in some Asian subgroups, such as traditional Chinese medicine, acupuncture,

yoga, reflexology, meditation or herbal medicines.
- Future research on cardiovascular risk needs to include enough Asian American subgroups and multigenerational participants to generate reliable findings for these populations.

"All of us—health care professionals, policymakers, community leaders and patients—must advocate for more health research funding for Asian Americans and demand inclusion of Asian American subgroup information in clinical trials and government-sponsored research," said Kwan. "Having a platform to share and disseminate data on Asian Americans for the scientific and research community would also be an asset for the health care professionals who care for this population."

This scientific statement was prepared by the volunteer writing group on behalf of the American Heart Association's Council on Epidemiology and Prevention; the Council on Lifestyle and Cardiometabolic Health; the Council on Arteriosclerosis, Thrombosis and Vascular Biology; the Council on Clinical Cardiology; the Council on Cardiovascular and Stroke Nursing; and the Council on Genomic and Precision Medicine.

Co-authors are Vice Chair Latha Palaniappan, M.D., M.S.; Sally S. Wong, Ph.D., R.D., C.D.N., FAHA; Yuling Hong, M.D., Ph.D., FAHA; Alka Kanaya, M.D., FAHA; Sadiya S. Khan, M.D., M.Sc., FAHA; Laura L. Hayman, Ph.D., R.N., FAHA; Svati H. Shah, M.D., M.H.S., FAHA; Francine K. Welty, M.D., FAHA; Prakash C. Deedwania, M.D., FAHA; and Asma Khaliq, M.D.

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