Heart health is sub-optimal among American Indian/Alaska Native women, supports needed

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Heart health risks emerge early in life in American Indian/Alaska Native (AI/AN) women and are increased by social factors—like high levels of

experiencing violence and traumatic life events—and disproportionately high rates of Type 2 diabetes, smoking and obesity, according to a new scientific statement published today in *Circulation: Cardiovascular Quality and Outcomes*, a peer-reviewed American Heart Association journal.

Cardiovascular disease is the leading cause of pregnancy-related death in the U.S. and the second leading cause of death in AI/AN women in the U.S. Overall, AI/AN individuals are 50% more likely to be diagnosed with premature cardiovascular (CVD) disease than their white counterparts. According to the statement, more than 60% of AI/AN women have suboptimal heart health when they become pregnant, which is strongly related to the development of heart disease later in life.

"Cardiovascular disease rates are particularly high in AI/AN women of reproductive age, for whom early detection and management of CVD remain paramount for improving cardiovascular health and reducing premature death," said Garima Sharma, M.D., FAHA, chair of the writing committee for this scientific statement. "We hope to bring to the forefront the disproportionate burden of CVD, adverse pregnancy outcomes and poor maternal health in American Indian and Alaska Native women as maternal mortality in the United States continues to increase."

Sharma is the director of women's cardiovascular health and cardio-obstetrics at Inova Health System in Falls Church, VA, and adjunct associate professor at the Ciccarone Center for the Prevention of Cardiovascular Disease at Johns Hopkins University School of Medicine in Baltimore.

This is the first time maternal cardiovascular health in AI/AN individuals has been addressed in an American Heart Association scientific statement. The writing group reported on cardiovascular health

status among AI/AN women based on the Association's optimal heart health metrics called Life's Essential 8. The statement also highlights underrecognized risks and social determinants of health that disproportionately affect AI/AN individuals. These environmental risk factors include food insecurity, inadequate access to care, psychological health factors (anxiety, depression), posttraumatic stress disorder, substance abuse, intimate partner violence, institutional and structural racism, and the historical context of colonization, dominance and exploitation of AI/AN people and lands.

Social determinants of health

The statement stresses the impact of social determinants of health on mental health and substance use disorders in AI/AN women. Despite their geographic and cultural differences, AI/AN women often share common experiences of racism and discrimination, which contribute to an overall environment of mistreatment and toxic stress, according to the statement.

More than 84% of AI/AN women experience violence in their lifetime, which may be reflected in the high prevalence of mood disorders, anxiety, and substance and alcohol use disorders in this population.

AI/AN women are also disproportionately more likely to have experienced a high number of adverse childhood experiences, such as neglect, abuse or having a parent in prison, which increase the likelihood of high-risk behaviors (cigarette smoking, substance use, etc.) and chronic disease in adulthood.

"AI/AN women's mental and behavioral health disparities reflect the toxic stress and trauma of violence," said Sharma. "Maternal care for AI/AN women must address traditional as well as social and cultural determinants of health. Common CVD risk factors such as Type 2

diabetes, obesity, smoking and premature atherosclerosis are aggravated in AI/AN individuals by chronic stress, intergenerational trauma, violence, adverse childhood experiences and food insecurity."

Traditional risk factors

Life's Essential 8 metrics for optimal cardiovascular health include blood pressure, cholesterol, blood glucose/Type 2 diabetes, weight, diet, physical activity, nicotine exposure and sleep duration. While rates of high blood pressure and cholesterol disorders are similar among AI/AN women compared to women of other races, and most report leisure or work-related physical activity, other factors have a significant impact on their heart health:

- Type 2 diabetes is the predominant CVD risk factor in AI/AN women, with an age-adjusted prevalence three times higher than among white women. Type 2 diabetes has a prevalence of up to 72% in some AI/AN communities. Women with Type 2 diabetes are also more likely to have additional CVD risk factors.
- Obesity affects almost half of AI/AN women, also beginning in childhood, and contributes to other CVD risk factors such as high blood pressure, Type 2 diabetes and sleep problems.
- While only 10% of the U.S. population in general meets the American Heart Association's dietary recommendations, it's more difficult for AI/AN women because of barriers such as limited access to healthy food and lack of reliable transportation.
- About one-third of AI/AN women smoke cigarettes, more than twice the percentage of women who smoke in the United States population overall; this includes 7.2% who smoked during pregnancy.

Risks surrounding pregnancy

The statement highlights pregnancy risks related to cardiovascular health in AI/AN women:

- The pregnancy-related death rate is 26.5% among non-Hispanic AI/AN women—lower than among non-Hispanic Black women, who have the highest rate at 41.4%, yet much higher than the national average of 17.3% among all adults. Of those giving birth between ages 35 to 40, AI/AN women are five times as likely to die compared to white women.
- Peripartum cardiomyopathy, a form of heart failure during and immediately after pregnancy, is responsible for more deaths (14.5%) among AI/AN women than women of any other race or ethnicity.
- AI/AN women also experience significantly higher rates of other pregnancy complications in comparison to white women, such as infection, postpartum hemorrhage or gestational diabetes. Pregnancy complications are associated with increased cardiovascular risk among all women.
- When present, high blood pressure is a strong predictor of CVD. Pregnant people with obesity, which is prevalent among AI/AN women, are at greater risk for developing preeclampsia. Hypertensive disorders of pregnancy, such as gestational high blood pressure and preeclampsia, contribute to maternal death among AI/AN women.
- Only 60.4% of AI/AN women sought prenatal care in the first trimester compared with 81.6% of non-Hispanic white women. This disparity is driven by AI/AN women often living in rural communities—40% live on tribal lands or reservations, rural or frontier communities with limited access to health care.

Addressing maternal health in AI/AN women

The statement makes several recommendations about ways to address

cardiovascular risks among AI/AN women, including:

- Addressing adverse childhood experiences at the community and individual level, bolstering existing family connections and improving family functioning through referrals to child and adult mental health services, parenting programs and social services to counter the effects of past trauma and reduce additional family stressors.
- Establishing a framework free of stigma and judgment to address AI/AN women's mental health and substance use within the context of structural racism and the long history of mistreatment of AI/AN individuals.
- Recognizing the personal stories of AI/AN women living with heart disease as a rich resource for health care professionals and researchers who are developing prevention and treatment programs. These women may also help reach others in the community as ambassadors.
- Providing appropriate screening and transfer of high-risk pregnancies to multi-disciplinary, team-based care, including preventive cardiology, maternal-fetal medicine, cardio-obstetrics and psychiatry.
- Developing an accessible workforce that provides culturally sensitive care, incorporating prenatal care, mental health care, birth workers and other health care professionals, including those from the tribal community.

"Health systems and community-based organizations that identify trauma and teach and celebrate resilience are essential to address mental and behavioral health needs and to promote healing of AI/AN women, families and communities," the statement says.

Evidence used in developing the statement is limited by the small numbers of AI/AN women in clinical trials and the lack of health

registries with data separated for the AN/AI population.

"We need to understand the health status of AI/AN populations and work collaboratively to improve cultural competency among our clinicians and partner with policymakers, health care professionals, local communities and tribal leadership to design better studies and include the voices of these patients in providing appropriate care," said Sharma.

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