

Special issue highlights new heart disease research on women, call for more

February 23 2016

The annual women's issue of *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal, focuses on research promoting the prevention, diagnosis and treatment of heart disease in women - the No. 1 killer of women in the United States.

"With this issue, we strive to create a future in which a special issue on [women's](#) cardiovascular health is obsolete," said Harlan Krumholz, M.D., S.M., editor of the journal, director of the Center of Outcomes Research and Evaluation at Yale-New Haven Hospital and a professor in Yale's schools of medicine and public health in New Haven, Connecticut. "We will know that we have arrived when an abundance of research on the topic of women's health that generates knowledge to improve the care and outcomes of a formerly neglected population is commonplace."

Among the findings in original research and commentaries in the issue:

Sex Differences in Outcomes Following Percutaneous Coronary Intervention According to Age (Robert Wilensky, M.D., University of Pennsylvania School of Medicine) - Despite having less severe [coronary artery](#) disease (CAD) than men the same age, women under age 50, were at greater risk for recurrent vessel blockage and adverse events after having [percutaneous coronary intervention](#) (procedure to open narrowed or blocked blood vessels). For five years, researchers followed 10,963 patients (3.6 percent women under age 50). While procedural success

rates were similar by sex, the cumulative rate of major adverse events was higher in young women at one- and five year follow-ups. "Because of their many years of remaining life expectancy that are threatened by early onset CAD, young women with CAD are a population that warrants special attention," the authors conclude.

Sex and Ethnic Difference in Outcomes of ACS and Stable Angina Patients with Obstructive Coronary Artery Disease (Karin

Humphries, D.Sc., University of British Columbia) - Among adults with [acute coronary syndrome](#) or stable angina and obstructive buildup of plaques in the [heart](#), women, as compared to men, were at significantly higher risk of [adverse events](#) (i.e. death and readmission for angina, heart attack, stroke and heart failure), regardless of ethnicity. A key finding of the study was that hospital readmission for angina was the most common adverse event, accounting for 45percent of all observed events. This finding was observed among all sex-ethnic groups, except among the Chinese women whose adverse outcome was driven by higher death rates. The study, conducted in British Columbia, Canada, involved 49,556 patients (25.6 percent women) of which 65.9 percent had acute coronary syndrome. The study suggests a need for more targeted cardiac care and research for women across different ethnicities.

Sex and Race/Ethnicity Related Disparities in Care and Outcomes after Hospitalization for Coronary Artery Disease among Older

Adults (Deepak L. Bhatt, M.D., M.P.H., Brigham and Women's Hospital Heart & Vascular Center, Harvard Medical School) - Women were less likely than men to receive optimal care at hospital discharge when admitted for coronary artery disease, and more likely to die within three years, according to a study of 49,358 patients ages 65 and older across 366 U.S. hospitals. Study data were collected through the American Heart Association's Get With the Guidelines Coronary Artery Disease registry over six years. African-Americans, compared with whites, were also more likely to die from coronary artery disease, though

this disparity could not be accounted for by differences in the quality of care. Researchers concluded that about 69 percent of the sex disparity in deaths could potentially be reduced or greatly eliminated by providing optimal and equitable quality of care to women.

Do women with anxiety or depression have higher rates of myocardial ischemia during exercise testing than men? (Kim Lavoie, Ph.D. University of Quebec at Montreal) - Women with anxiety and no history of coronary artery disease, had higher rates of reduced blood flow compared to women without anxiety. A Canadian study assessed the connection between mood, anxiety and myocardial ischemia (reduced blood flow to the heart) in women and men with and without coronary artery disease. The research indicates that anxiety symptoms, many of which overlap with those of [coronary artery disease](#), might mask heart disease symptoms among women - but not men - and contribute to referral and diagnostic delays for women.

Return to Work after Acute Myocardial Infarction: A comparison between Young Women and Men (Rachel Dreyer, Ph.D., Center for Outcomes Research and Evaluation, Yale University School of Medicine) - Compared to young men, [young women](#) may be slightly less likely to return to work a year after a heart attack. The study included 1,680 heart attack patients ages 18 to 55 (57 percent women) who were working full time before having a heart attack. Statistically, however the differences between men and women were not significant after adjusting for several health factors. In this study, women were less likely to be married and were more likely to have professional or clerical jobs than men - which are associated with lower likelihood of returning to work. Participants were part of the VIRGO study (Variation in Recovery: Role of Gender on Outcomes of Young Acute Myocardial Infarction Patients).

Association between a Healthy Heart Score and the Development of

Clinical Cardiovascular Risk Factors Among Women: a Potential Role of Primordial Prevention (Mercedes Sotos-Prieto, Ph.D. Harvard Chan School of Public Health) - An analysis of 69,505 middle-aged U.S. women in the Nurses' Health Study II showed a strong association between a lifestyle-based risk prediction model and the development of cardiovascular disease risk factors, including diabetes, hypertension and high cholesterol. The Healthy Heart Score estimates the 20-year risk of cardiovascular disease based on nine lifestyle factors. A higher score reflects a higher risk of cardiovascular disease. Women with higher predicted risk of heart disease based on the Healthy Heart Score had significantly greater risk of each risk factor individually. The study calls for additional research to evaluate the use of the tool as a strategy for preventing the development of heart risk factors.

Parity and Components of the Metabolic Syndrome Among U.S. Hispanic/Latina Women: Results from the HCHS/SOL Study (Catherine Vladutiu, Ph.D., University of North Carolina at Chapel Hill) - Women who gave birth four times or more had the highest odds of developing metabolic syndrome risk factors such as abdominal obesity, elevated fasting glucose and low good cholesterol - all of which raise the risk of heart disease. The analysis was performed among 7,467 women ages 18 to 74 in the Hispanic Community Health Study/Study of Latinos. The study stresses the importance of considering the number of births as a risk factor for developing metabolic and cardiovascular disorders among Hispanic/Latina women.

Sex Differences in the incidence of Peripheral Artery Disease in the Chronic Renal Insufficiency Cohort (Grace Wang, M.D., University of Pennsylvania) - Women had a 53 percent higher risk of developing peripheral artery disease (PAD) before age 70 compared to men, in a study examining how PAD in chronic kidney disease differs based on gender and age. The prospective study involved 3,174 participants with chronic kidney disease from the multi-center Chronic Renal

Insufficiency Cohort (CRIC). Researchers recommend future studies to better understand the impact of earlier detection of the disease in women and the biological and clinical basis for the sex-based differences covered in this study.

And commentary from American Heart Association CEO Nancy Brown provides an overview of the continued growth and contributions of the group's Go Red for Women. Since its inception in 2004, the movement has focused on awareness, education and advocacy in reducing the risk of heart disease in women. The latest addition, expected to launch in April this year, will establish a Women's Health Research Network based at five research centers to support basic, clinical and population-based studies in advancing the prevention, diagnosis and treatment of heart disease in women.

"The ultimate goal of Go Red for Women is to save lives," Brown said. "Since 2004, there has been an average annual decrease of about 2 percent in women's deaths from cardiovascular diseases and stroke, representing a total of about 670,000 lives.

"Despite this progress, we have much more to accomplish," according to Brown's article. "Heart disease continues to be the No. 1 killer of women, and stroke remains their fourth leading killer. Meanwhile, the prevalence of these illnesses is growing. More than one-third of women have some form of cardiovascular disease, and more than 90 percent have at least one risk factor for these illnesses. That's far too many women, and it means that organizations like ours have an obligation to do even more."

Provided by American Heart Association

Citation: Special issue highlights new heart disease research on women, call for more (2016,

February 23) retrieved 3 May 2024 from <https://medicalxpress.com/news/2016-02-special-issue-highlights-heart-disease.html>

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