



Assessing and addressing cardiovascular risk in young women

JoEllen Wilbur, PhD, APN, FAAN^{a,b,c,*}, Lynne T. Braun, PhD, APN, FAAN^{b,c},
Cynthia Arslanian-Engoren, PhD, RN, ACNS-BC, FAHA, FAAN^{a,d},
Diane R. Lauver, PhD, RN, FAAN^{a,e}, Shannon Halloway, PhD, RN^{c,f}

^a Women's Health Expert Panel

^b Health Behavior Expert Panel

^c Rush University College of Nursing

^d University of Michigan School of Nursing

^e University of Wisconsin-Madison School of Nursing

^f American Academy of Nursing Jonas Policy Scholar

Executive Summary

Over the past 2 decades there has been an increase in cardiovascular disease (CVD) mortality for young women aged 35 to 54 years that corresponds with an increase in CVD risk factors. Yet, both young women and their providers underestimate CVD risk. Expert recommendations to provide patient education on CVD prevention and consider CVD risk factors in women have failed to detail the unique considerations in young women. The American Academy of Nursing (Academy) supports (a) increasing National Institutes of Health (NIH) funding for both basic research and clinical trials that focus on CVD risk in young women; (b) amplifying health-care system quality improvement initiatives to increase clinicians' rates of practice consistent with clinical guidelines for CVD risk; (c) partnering among primary care providers and specialists in women's health and cardiovascular health to assess and manage women's CVD risk; and (d) collaborating with public health and community organizations to lead initiatives for CVD risk reduction in young women.

Background

Despite recent successes in prevention and treatment, heart disease remains the number one killer of women. Women with a history of at least one acute ischemic heart disease event have worse outcomes compared with men (McSweeney et al., 2016). Examination of age subgroups shows there has been an

increase in CVD mortality in the past 2 decades for women 35 to 54 years old. Young females in particular underestimate their CVD risk. Further, young women's heart health may be neglected by health-care providers because their risk for CVD is perceived to be low (Leifheit-Limson et al., 2015). Most recent reports, however, show the prevalence of three or more CVD risk factors (hypertension, diabetes, lipid disorders, obesity, tobacco use, physical inactivity, family history) among women ages 35 to 64 has nearly doubled from 2003–2004 to 2011–2012. In fact, the increase in CVD in young women may be due largely to increases in obesity and type 2 diabetes (Wilmot, O'Flaherty, Capewell, Ford, & Vaccarino, 2015). Among young women with two or more CVD risk factors, the rate of cardiovascular mortality was 88% higher than women without CVD risk factors followed over 31 years (Daviglius et al., 2004).

Although the benefit of leisure time physical activity in reducing CVD risk among young women is well established (Chomistek et al., 2015; Chomistek, Henschel, Eliassen, Mukamal, & Rimm, 2016), women aged 18 to 44 years are less likely than age-matched men (52.6% vs. 60%) to meet recommended physical activity guidelines (Benjamin et al., 2017). Most research on interventions to increase physical activity among women has neglected young women (Chomistek et al., 2016). Special attention needs to be paid to young African-American women for whom CVD and the majority of CVD risk factors (i.e., hypertension, diabetes, obesity) are higher and physical activity is lower than in Caucasian, Hispanic, and Asian women (Benjamin et al., 2017).

There are also a number of sex differences contributing to CVD risk (O'Neil, Scovelle, Milner, & Kavanagh, 2018). Sex differences include a woman's reproductive

* Corresponding author: JoEllen Wilbur, Women's Health Expert Panel and Health Behavior Expert Panel, Rush University College of Nursing, 600 S. Paulina, Suite 1080, Chicago, IL 60614.

E-mail address: JoEllen_Wilbur@rush.edu (J. Wilbur).

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history, a history of polycystic ovary syndrome, and a history of rheumatologic and other inflammatory conditions (Humphries et al., 2017; Moise & Bertoni, 2017; Wenger, 2014; Wright, Crowson, & Gabriel, 2014). Women with hypertensive disorders of pregnancy (e.g., preeclampsia, eclampsia, hemolysis, elevated liver enzymes, low platelets syndrome, gestational hypertension) are at increased risk for post-pregnancy hypertension, with rates shown to be twice as high for more than 20 years than for women without such disorders (Behrens et al., 2017). Also, gestational diabetes is associated with subsequent development of CVD risk factors, including diabetes and metabolic syndrome (Shostrom, Sun, Oleson, Snetselaar, & Bao, 2017).

Furthermore, sex and gender play roles in the contribution of psychosocial stress to CVD risk in women. Women experience higher rates of depression and anxiety than men. Partly due to gender role socialization of women and men, women experience domestic violence/abuse, childhood trauma, and post-traumatic stress disorder more than men (Bale & Epperson, 2015; Low, Thurston, & Matthews, 2010). Women are more likely to view chronic disease risk more negatively than men (Vlassoff, 2007) and more likely to seek care for health problems (Thompson et al., 2016). Yet, providers are more likely to attribute potential disease symptoms to anxiety or stress without considering how perceived stress or anxiety can influence alterations in inflammatory and autonomic responses that elevate CVD risk (Chapman, Kaatz, & Carnes, 2013).

Responses and Policy Options

The Association of Women's Health, Obstetric and Neonatal Nursing (AWHONN) published a position statement in 2011 supporting nursing's role in the cardiovascular health of women, including screening, education, and health promotion across the life span. In particular, AWHONN stated that "it is critical for health care providers to raise the issue of cardiovascular health with female patients and to determine their CVD risk" (Association of Women's Health, Obstetric and Neonatal Nursing [AWHONN], 2011). AWHONN stresses the importance of patient education in CVD prevention including lifestyle health behaviors, medication adherence, and focus on quality of life and other important patient outcomes. The American Heart Association (AHA) published clinical guidelines focused on the prevention of CVD in women, and emphasized "lifestyle approaches to the prevention of CVD, likely the most cost-effective strategy" (Mosca et al., 2011). Additionally, AWHONN and AHA, along with the Preeclampsia Foundation (Preeclampsia Foundation, 2006) and the North American Menopause Society (The NAMS 2017 Hormone Therapy Position Statement Advisory Panel, 2017) specify the unique risk factors of women that contribute to CVD risk, including risks related to pregnancy and hormone replacement therapy (AWHONN, 2011;

Mosca et al., 2011). In 2016, the AHA published a scientific statement noting disparities in the prevention and treatment of ischemic heart disease in women (e.g., delayed diagnosis, worse outcomes following an acute event), and the characteristics of women that influence CVD risk (e.g., reproductive, psychosocial risk factors; McSweeney et al., 2016).

Million Hearts is an initiative established in 2012 by the U.S. Department of Health and Human Services coled by the Centers for Disease Control and Prevention (CDC). This initiative aimed to save 1 million lives in 5 years by implementing national CVD prevention efforts, collaborating with 120 key partners and 20 federal agencies (Frieden & Berwick, 2011). The Academy published the important Call to Action for registered nurses to "rally and commit to combating [CVD] to meet the CDC's goal of saving one million lives by 2017" (The American Academy of Nursing, 2016). In Wisconsin, the state health department and state nursing organization created an interprofessional expert panel to recommend numerous ways in which health-care teams and organizations can collaborate in practical actions to control hypertension and CVD (Wisconsin Nurses Association, 2017). Although significant progress was made in reaching Million Hearts' goals of optimizing care and improving outcomes, the goal of saving 1 million lives was not met. Thus, the efforts have been renewed for year 2022. Despite Million Hearts' acknowledgement that women have worse outcomes associated with CVD and have unique risk factors, there are no specific prevention efforts targeting women.

The Academy's Position

The Academy has long been an advocate of women's health. Over 25 years ago at the Academy 1991 annual conference, representative Patricia Schroeder from Denver, who advocated for the National Institutes of Health (NIH) Revitalization Act of 1993 mandating the inclusion of women and minorities in clinical research conducted by the NIH, presented the keynote address on the importance of focusing on women and their health needs. Since then, nurse scientists have been among those leading the charge to broaden research in women's health beyond the obvious differences from men in reproduction and sex hormones. Nurse scientists have contributed to our knowledge base about conditions and diseases unique to or more prevalent in women as well as tailoring and targeting behavioral interventions to meet their specific needs. We recommend the following in support of young women's cardiovascular health and CVD risk.

Recommendations

- NIH should increase funding for basic research in identifying biomarkers and genetic variations that

influence CVD risk in young women as well as clinical and translational programs that address skills for healthy lifestyle and self-management of conditions that contribute to CVD in young women.

- Health-care systems should amplify quality improvement initiatives to improve clinicians' rates of practice consistent with clinical guidelines for conditions that increase CVD risk, including metabolic syndrome, diabetes, hypertension, and cholesterol, in both primary care and specialty clinics. For example, an interprofessional task force published recommendations for health-care organizations and health-care teams to take practical actions to improve control of hypertension as an example of a major CVD risk.
- Professional organizations representing various disciplines should promote the importance of partnering among primary care providers and specialists in women's health and cardiovascular health (e.g., Women's Health Nurse Practitioners (NPs), Primary Care NPs, primary care and perinatal registered nurses, obstetrician/gynecologists, cardiologists, and endocrinologists; Bauer & Bodenheimer, 2017).
- Nursing leaders should partner with public health and community organizations to lead initiatives that increase women's accurate perceptions of CVD risk and promote skills for a healthy lifestyle, especially among vulnerable populations.

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