

Women and Cardiovascular Disease: What Can Health Care Providers Do to Reduce the Risks?

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Cardiovascular disease impacts everybody and places significant burdens on the health care system. Educating women on their risks and how to reduce these risks will not only make women more aware but will help to improve lives and reduce health care costs. This commentary will review heart disease in women and what women can do to improve their cardiovascular health.

Cardiovascular disease includes coronary heart disease; cerebrovascular disease (stroke); peripheral artery disease; and atherosclerosis of the aorta, which can lead to aortic aneurysm (a condition in which the aorta can rupture unexpectedly). Why should women worry about cardiovascular disease? Cardiovascular disease is often thought of as a “man’s disease,” but this is a common misperception. There are as many deaths from cardiovascular disease in women as in men [1]. Unfortunately, many women do not know of their risk; thus, the biggest challenge in reducing cardiovascular disease among women is educating women about this risk and counseling them on prevention and early identification of symptoms.

In North Carolina, heart disease and stroke account for 28% of all deaths in women, making cardiovascular disease the leading cause of death; this means that, on average, 30 women in North Carolina die of cardiovascular disease each day [2]. Yet, when women are asked what they are most likely to die from, approximately 1 in 2 women will answer cancer or breast cancer [3]. In actuality, cardiovascular disease kills about 10 times more women than the next 10 causes of death combined, including many different types of cancers [4, 5].

Cardiovascular textbooks of the 1970s and 1980s did not mention the diagnosis and treatment of women with cardiovascular disease. Similarly, in a survey of magazines that women might read published within a 1-month timeframe in the early 2000s (somewhere in the range of 150–170 magazines), there were over 100 articles on breast cancer but only 10–15 on cardiovascular disease [6]. During that same period, surveys suggested that only 1 in 3 health care providers were aware of the increased risk of cardiovascular disease among women or counseled their patients on primary prevention [3].

We have come a long way since the early 2000s, and there has been an overall decline in cardiovascular disease among women, but the numbers are still too high. The American Heart Association began the Go Red for Women campaign in 2002 with the goal of raising awareness among women about their risks of cardiovascular disease and how their symptoms might present. Other groups that have joined the fight are the National Heart, Lung, and Blood Institute, which runs The Heart Truth campaign, and WomenHeart, a support organization for women who have heart disease. The mission of the latter organization is to educate and support women with cardiovascular disease on secondary prevention through their website and local programs. These organizations have had success in spreading their messages, but there is still a need to make information available to women who have no access to the Internet or whose lifestyles prevent them from taking time to access this information. My personal approach to spreading the word about risk, presentation of heart disease and stroke, and how women can reduce their risk is like a domino effect. If I educate 2 women and, in turn, those women educate 2 other women, then eventually the message can reach large numbers of people.

Across all age groups, the number of deaths from cardiovascular disease among women is declining nationwide; among women younger than 45 years, however, mortality from cardiovascular disease has plateaued over the past 15 years [7]. This trend can be changed with good primary and secondary prevention and education, the latter of which can occur in any number of settings: during doctor visits, at health fairs, and as part of worksite wellness programs.

Educating health care providers as well as patients is imperative to reduce these trends. Teaching a woman to “know her numbers” and talk to her health care provider is a good place to start. In addition to traditional risk factors—such as blood pressure, cholesterol levels, diabetes mellitus,

Electronically published November 16, 2016.

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N C Med J. 2016;77(6):406-409. ©2016 by the North Carolina Institute of Medicine and The Duke Endowment. All rights reserved. 0029-2559/2016/77611

smoking, sedentary lifestyle, and obesity—women also have a higher risk of cardiovascular disease if they have depression, an isolated lifestyle, or a lower socioeconomic level. Ethnicity may also play a role, as ethnicity often interacts with these other risk factors.

Know Your Numbers

The idea behind the “know your numbers” campaign is that women should ask their doctors about their risk factors for cardiovascular disease, and providers should discuss the numbers associated with these risks. These numbers should always be part of a primary prevention strategy, and they continue to be important in women who have already been diagnosed with coronary artery disease or stroke. Below are some of the numbers a woman needs to know. While these numbers provide information about the major risk factors, there are additional factors—including inflammatory and advanced cardiac markers, such as lipoprotein(b)—that should also be taken into consideration when providers counsel patients about their cardiovascular risk.

Age

Postmenopausal women are at a higher risk of cardiovascular disease. A woman who has had a hysterectomy becomes postmenopausal if her ovaries are removed.

Family History of Premature Cardiovascular Disease

First-degree relatives are the most important for predicting risk of cardiovascular disease, with some studies suggesting that disease in siblings is more predictive of early heart disease [7]. Premature cardiovascular disease is generally defined as cardiovascular disease in a male relative before the age of 55 years or in a female relative before the age of 65 years.

Hypertension

Knowing one’s blood pressure is important, as uncontrolled blood pressure can lead to damage to the heart, kidneys, and eyes. The prevalence of hypertension in women over the age of 60 years can approach 70%–80% [8]. High blood pressure is a strong predictor of risk and is more commonly seen in women with coronary heart disease.

High Cholesterol and Triglycerides

Risk factors associated with lipid management are somewhat different when comparing women versus men. Low levels of high-density lipoprotein (HDL), rather than high levels of low-density lipoprotein (LDL), are more predictive of coronary risk in women. In addition, elevated levels of lipoprotein(a) in women under the age of 66 years are associated with a higher risk of coronary heart disease independent of other risk factors. Triglyceride levels appear to be more influential in older women [5]. Thus, every woman should know her lipid levels.

Tobacco Use

Currently in North Carolina, 16.3% of women smoke [9], and women who smoke present with heart disease earlier in life compared with those who do not smoke [10]. Thus, intervention on this risk factor alone could prevent future cardiovascular disease, as research shows that as many as 50% of women who present with acute myocardial infarction (heart attack) are smokers [10]. The risk of heart disease is increased if a woman smokes as few as 1–2 cigarettes per day, but this risk declines rapidly when she quits smoking [10].

Obesity

Obesity can be measured in many ways, but body mass index (BMI) is a commonly accepted way of gauging weight. A BMI of 30 kg/m² or higher is considered obese, and a BMI over 35 kg/m² is considered morbidly obese. Obesity is directly associated with increase in cardiovascular disease.

Diabetes Mellitus

If a woman has diabetes mellitus, her risk of having a first-time coronary event is the same as that of someone who has already been diagnosed with coronary artery disease [11]. For a woman who has diabetes, her risk of developing cardiovascular disease is 4–7 times higher than the normal population (men have up to 3 times the risk) [11]. Thus, blood sugar level and hemoglobin A1c are numbers every woman should know.

Chronic Kidney Disease

Decreased kidney function is an independent risk factor for the development of new cardiovascular disease or the worsening of existing cardiovascular disease. Hypertension, diabetes mellitus, and advanced age can all impair kidney function. Thus, women should know their creatinine level, as this value provides a measure of kidney function.

Alcohol Intake

Drinking too much alcohol can increase the risk for cardiovascular disease, either directly or by interacting with previously mentioned risk factors. The American Heart Association therefore recommends that women who drink have no more than 1 alcoholic beverage per day [12].

Sedentary Lifestyle

Even a moderate amount of exercise can have preventive benefits in terms of reducing cardiovascular disease risk. Women should therefore track their exercise—the number of steps taken daily, or the amount of time one exercises weekly (30 minutes 3 times a week).

Barriers to Care

Barriers to health care prevent some women from learning about their risks or discussing their numbers with their

doctor. For example, women with depression may isolate themselves and not seek care for symptoms that are suggestive of a problem. For this reason, facilitating access to the health care system is important for all women. Programs such as workplace wellness and outreach community screenings can make a difference, and providing these opportunities in worksites allows women to seek information on cardiovascular disease without having to miss work or arrange child care. These screenings can help with early diagnosis, thus reducing the risk for the development of cardiovascular disease.

Women with heart disease typically present at a later age than men, probably in part because of the decrease in estrogen that occurs after menopause. However, many women present with cardiovascular disease before the age of 50 years, and these women may not recognize the symptoms of heart disease or stroke. As mentioned previously, the mortality in this group of women has plateaued with respect to incidence. Nanette Wenger, a leader in women's heart disease, reflected that lack of awareness is a problem among both patients and physicians:

There is a gender gap in prevention for 2 reasons. First, many women...don't perceive themselves to be at risk. Again, many women think this is an older woman's disease or it's totally a man's disease. And if you do not perceive yourself to be at risk, you will not undertake the preventive interventions that we are going to be talking about later...Also, many physicians, as we have learned, do not think that their [female] patients are at as great a risk as the men, and therefore perhaps they are less eager or enthusiastic about prescribing preventive interventions [13].

On average, women typically present an hour later than men when experiencing their first heart attack [14]. In women, the typical symptoms of chest pressure or pain may not be present in an acute cardiovascular event. Instead, a woman may experience shortness of breath or nausea. She will sometimes experience overwhelming fatigue. A woman who feels she is having a heart attack should immediately take 325 mg of aspirin and call 911. She should never drive a car or let someone drive her to the hospital, as early emergency treatment and potential complications cannot be addressed if she is transported in a private vehicle.

With an acute stroke, the same symptoms may be more profound, with unilateral weakness and difficulty with speech, or there may be central neurological symptoms such as the sensation that the room is spinning. Arriving at the hospital earlier when experiencing a heart attack or stroke will lessen the risk of significant damage. Arriving in the first 90 minutes after the symptoms of a stroke begin can make a woman eligible for medications that help dissolve clots and improve the likelihood of recovery. With both stroke and heart attack, early diagnosis is the key to a better outcome.

How to Make a Difference

What can health care providers do to make a difference? Educational tools and information—including a summary of cardiovascular disease risk factors and the presenting symptoms of an acute myocardial infarction and stroke—should be made widely available to women. An American Heart Association video that was made available in 2012, called “Just A Little Heart Attack” [15], was made to educate women on the symptoms of a heart attack. The American Heart Association's Go Red for Women campaign [16] and the National Heart, Lung, and Blood Institute's website [17] are also good places to find educational materials. Making some of these materials available, either in print or on a computer, while the patient waits for an appointment is a good way to generate questions.

As health care providers, we should know our patients' numbers and be prepared to discuss them in the context of interventions and recommendations for primary and secondary prevention. All patients who have been diagnosed with coronary heart disease should be referred for cardiac rehabilitation after an event. Cardiac rehabilitation is now an American College of Cardiology Class I recommendation, and cardiac rehabilitation is covered by insurance for the diagnosis of stable angina, myocardial infarction, valve replacement surgery, stent placement, heart transplant, and congestive heart failure. These programs aid with risk factor reduction, and data show that they reduce mortality, reduce doctor visits, reduce health care costs, and make people feel better faster [18]. Women tend to participate less than men even when referred to these programs [18]; this behavior may relate back to isolation and possibly depression.

UNC Health Care has an active Women's Heart Program. Over the past 10 years, we have established a workplace wellness program for all employees of UNC hospitals in which we measure each attendee's blood sugar, total cholesterol, HDL, LDL, weight, waist circumference, BMI, and blood pressure. Each participant gets counseled one-on-one about his or her numbers. We have seen a significant number of women who do not go to the doctor regularly, and we almost always identify people who are out of range with respect to their numbers (cholesterol, weight, or blood pressure) or who have undiagnosed diabetes. Identifying these participants can save the health care system millions of dollars. For 5 years, we have also screened all employees of the Chapel Hill-Carrboro City Schools using the same worksite wellness program, and we have found many of the same results. Our Women's Heart Program also goes into the community to perform the same services.

In February 2017, we will be holding a Women's Heart Symposium aimed at educating women in the community on their risk factors and steps they can take to reduce these

factors. It will be a one-day program that explores women's cardiovascular health, diet, exercise, heart failure, and psychosocial stress. Community programs such as these will help spread the word about cardiovascular risk among women.

Women need to take charge of their cardiovascular health. With help from other health care providers, we can give them the tools to make a difference. **NCMJ**

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Acknowledgments

Potential conflicts of interest. P.M. has no relevant conflicts of interest.

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