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Brief Report

Preventing Heart Disease in Women through Physical Activity, can we do Better?

Sharon Puchalski*

Department of Nursing, William Paterson University, Wayne, New Jersey, USA

***Corresponding author:** Sharon Puchalski, Department of Nursing, William Paterson University, 300 Pompton Road Wayne, New Jersey 07470, USA. Tel: +1-9737203488; Email: Puchalskis1@wpunj.edu

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Abstract

According to the American Heart Association (AHA), the number one killer of women is cardiovascular disease, causing one in three deaths each year. The Centers for Disease Control and Prevention (CDC) reported that more than 60 percent of U.S. women do not participate in the recommended amount of physical activity and more than 25 percent of women are not active at all. Health promotion and prevention continue to be a national and global priority. Scientific evidence supports physical activity as primary and secondary prevention. Physical activity should be prescribed to all women as part of preventive care and overall health. Healthcare providers in every setting must take an active role to address the importance of physical activity and reduce the burden of disease.

Keywords: Heart disease; Physical activity; Primary prevention; Women

Introduction

The number one killer of women in the United States is cardiovascular disease, causing one in three deaths each year [1]. Heart disease increases the risk of Myocardial Infarction (MI) and cerebrovascular accident and impacts patients, families, and society [1]. Coronary Heart Disease (CHD), the most common type affects about 1 in 16 women age 20 and older [2]. In the United States, CHD affects roughly 6.6 million women alive today and of these 2.7 million have a history of myocardial infarction [3]. It is estimated that new and recurrent MI and fatal CHD will impact an estimated 405,000 women annually [3]. Almost as many women as men die each year of heart disease [4]. In 2017, 299,578 women died from heart disease [4]. Physical inactivity contributes to more than 5 million deaths globally each year [5]. Only 19% of women are getting the recommended amount of aerobic and muscle strengthening activity [6]. There is a critical need to focus on cardiovascular health promotion and disease reduction in women

and physical activity has been identified as a key to improving the Nation's and global health [7].

Background

Physical inactivity and inadequate activity have significant medical and economic consequences. The CDC reported that 1 in 10 premature deaths could be prevented if people got enough physical activity [4]. Health care costs related to physical inactivity are estimated to be \$117 billion annually [4]. Scientific evidence on the beneficial effects of physical activity as primary and secondary prevention to decrease the incidence of heart disease is well supported [4,5,8,9]. Primary prevention is key and the World Health Organization (WHO) has a global action plan on physical activity 2018-2030: more active people for a healthier world [8]. The global plan mandates to promote physical activity recognizing that the fourth leading risk factor for global mortality is physical inactivity [8]. Increasing the population's level of physical activity have significant effects on public health outcomes and is one of the most important changes that could be made for public health [5]. Important benefits derived from physical activity include:

reduced risk of early death, coronary heart disease, high blood pressure, stroke, Type 2 diabetes, breast and colon cancer, falls, depression, arthritis symptoms and weight gain; improved aerobic fitness, mental health, sleep, balance, joint mobility and cognitive function [4,6].

The WHO's global health report included three important recommendations related to the subject: ensure healthy and productive lives for women and children, promote cardiovascular health, and improve survival rates for women and children [10]. Targeting a modifiable risk factor, such as physical activity, should begin early in a woman's life and extend throughout the lifespan [4]. Advanced Practice Nurses (APNs) must be familiar with the prevalence of heart disease in women, risk factors (including physical inactivity), counsel and make recommendations according to the updated 2018 Federal Physical Activity Guidelines. Promoting physical activity in clinical practice and health care settings improves patient and population health [11].

2018 Federal Physical Activity Guidelines

The Physical Activity Guidelines provide evidence-based recommendations on improving health through regular physical activity [12]. A comprehensive and collaborative effort is needed to increase rates of physical activity and reduce rates of physical inactivity related diseases in women [13]. The Physical Activity Guidelines recommend 150 - 300 minutes each week of moderate-intensity aerobic physical activity (walking, aerobics, dancing) or 75 - 150 minutes each week of vigorous-intensity aerobic physical activity (running, swimming laps, jumping rope) [12]. In addition, women should include muscle-strengthening activities using all major muscle groups at least two days each week [12]. Examples of muscle-strengthening activities include: lifting weights, working with resistance bands, body weight for resistance (push-ups, pullups, and planks), stair climbing, shoveling snow, and carrying heavy loads (groceries and heavy gardening) [12]. The American College of Obstetricians and Gynecologists provide a list of frequently asked questions related to "staying active: physical activity and exercise" detailing the benefits of physical activity, what constitutes aerobic and muscle strengthening activities, how to stay safe during physical activity and warning signs to stop working out [14].

Discussion

Physical activity fosters optimal health and is essential in the prevention and treatment of heart disease [4]. Implementing positive health changes including regular physical activity can improve the health and quality of life of women. Promoting physical activity as it correlates to positive cardiovascular health including optimal blood pressure, blood glucose and lipids should be a priority throughout the lifespan [6]. Healthcare providers can

promote health by encouraging patients to make healthier lifestyle choices including physical activity. Patients should be provided with individualized, evidence-based information.

APNs are responsible for obtaining a detailed history and physical examination. A comprehensive patient history provides an opportunity for APNs to collaborate with patients about the benefits of physical activity and assess the patient's willingness to participate in physical activity. A patient's physical activity level should be routinely assessed and integrated when caring for women. The Guidelines are an essential resource and important for APNs to understand, review and recommend to patients. APNs can refer to key guidelines for adults, older adults, women during pregnancy and postpartum period, adults with chronic health conditions and adults with disabilities [12]. Utilizing the Physical Activity Guidelines in practice will help patients to improve their overall health and prevent and/or reduce the risk of heart disease [12].

While educating patients, APNs must consider and identify risk factors based on family, population, and/or community characteristics. Teach patients to include healthy behaviors such as physical activity on most days and that moving more and sitting less benefit's most people [12]. Assessing barriers of physical activity and implementing strategies to improve physical activity must be addressed. Factors that have been identified that keep women from being physically active include: advancing age, low income, lack of time, low motivation, rural residency, perception of great effort needed for exercise, overweight or obesity, perception of poor health, and being disabled [6]. It will be necessary to assess the patient's knowledge and receptiveness to information. APNs fill an important role in helping to motivate patients to adhere to the guidelines while improving physical activity levels and overall health. The long-term goal of increasing physical activity is affected by adherence to the prescribed program. An important part of care includes patient follow-up to ensure continued lifestyle changes and adherence to the recommended physical activity guidelines. Healthcare providers in every setting must take an active role to address the importance of physical activity [10].

Initiatives to Encourage Physical Activity

Health promotion strategies that focus on increasing physical activity is a priority considering the low levels of participation in PA and the alarming rates of cardiac disease among women. The American Heart Association (AHA) reported that physical activity is a core health behavior and supports several evidence-based strategies to improve cardiovascular health including: an individual focused approach, a healthcare system approach and a population-based approach [3]. APNs are uniquely positioned to include the initiatives that promote the adoption of a healthy lifestyle and reduce the negative health impact of physical inactivity.

In response to improving the population's level of physical activity, health policy experts and medical associations have issued guidelines and initiatives for making physical activity-based prevention a part of clinical practice [8,9,11]. The "Move Your Way" campaign encourages increased physical activity to help people live healthier lives [7]. "Exercise is Medicine" is an initiative by the American College of Sports Medicine to encourage improved participation in physical activity [15]. The CDC is helping 27 million Americans become more physically active by 2027 [4]. The national initiative is called "Active People, Healthy Nation" stating that improved health, quality of life and a reduction in health care costs are benefits of increased physical activity [4]. The WHO as part of the global action plan developed "Active", a technical toolkit for increasing physical activity [16]. The following are included in the "Active" initiative: active societies, active environments, active people and active systems [16].

The AHA encourages women to move more and be healthy for life offering many ways to incorporate physical activity [17]. "Go Red for Women" is an initiative led by the AHA to end heart disease and stroke in women [17]. The vision of the 2016 National Physical Activity Plan (NPAP) is "One day, all Americans will be physically active, and they will live, work and play in environments that encourage and support regular physical activity" (p.1) [18]. The NPAP encourages partnerships between health care professionals with other sectors such as community, recreation, fitness, parks and faith-based sectors to promote physical activity at the population level in addition to other overarching priorities [18]. Recommendations from Healthy People 2020 emphasize how sidewalks, bike lanes, parks, trails, and improved access to facilities that support physical activity can positively affect PA levels [6]. APNs should incorporate available initiatives and toolkits into their practice to prevent disease and improve the health of all patients.

Conclusion

To address chronic disease prevention, innovative efforts have been taken by health policy experts and medical association to improve levels of physical activity to meet Physical Activity Guidelines [8,9,11]. However, additional work needs to be done in order to successfully have healthcare providers focus on the importance of prevention. CHD is the leading cause of morbidity and mortality in the United States [19]. Physical activity as primary prevention should be a part of preventive care and overall health for women [7,9]. The Physical Activity Guidelines provide evidence-based support to help Americans maintain or improve their health and quality of life through physical activity [12]. APNs should be well informed regarding the guidelines and prescribe physical activity for cardiovascular and general health [12]. Engaging in physical activity significantly decreases a woman's risk of developing CHD [1,4]. Women in partnership with their

APN should be encouraged to take an active role in their health and wellness with a focus on prevention throughout the lifespan. APNs are in a key position to provide oversight of the implementation of the guidelines to prevent CHD in women and reinforce the importance of increased physical activity to promote heart health and overall well-being.

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