

A Clinical Practise Statement from the American Society for Preventive Cardiology Provides a Definition of Preventive Cardiology

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Abstract

Over the past few decades, remarkable changes in science and healthcare have led to a decline in cardiovascular disease mortality, largely due to advancements in risk-based prevention and treatment. However, as our country experiences an increase in cardiovascular risk factors such as metabolic syndrome, type 2 diabetes, and overweight and obesity, these trends are beginning to stall. In addition, these trends have been exacerbated by poor long-term adherence to a healthy lifestyle and life-saving pharmacotherapy, with recent data indicating unprecedented increases in cardiovascular morbidity and mortality. In order to improve our nation's cardiovascular health, a paradigm shift is required. The practice of primordial, primary, and secondary prevention of all cardiovascular diseases is known as preventive cardiology, a developing subspecialty of cardiovascular medicine.

Cardiovascular disease continues to be the leading cause of death for men and women in the United States, despite diligent efforts. Preventive cardiology as a distinct subspecialty is questioned by many healthcare professionals, despite the fact that there is little debate about its significance. A lack of organization and standardization, as well as the varying quality of training provided by programs across the country, has hampered the field's expansion. According to the American Society for Preventive Cardiology, the purpose of this document is to outline the key characteristics that define the field of preventive cardiology.

Keywords: Preventive cardiology • Atherosclerosis • Primordial prevention • Primary prevention • Secondary prevention • Risk assessment • Cardiovascular disease

Introduction

Despite remaining the leading cause of death and disability worldwide and in the United States (US), cardiovascular disease (CVD) is completely preventable. Preventive cardiology as a distinct subspecialty of cardiovascular medicine continues to be the subject of debate, with many arguing that primary care physicians or general cardiologists should carry out CVD prevention. Furthermore, preventive cardiology programs the nation over contrast in their subject matters, approach, and treatment, prompting disarray among medical services experts, which has been exacerbated by a general absence of agreement on the meaning of this arising subspecialty [1].

Literature Review

Although the 2015 American College of Cardiology (ACC) Core Cardiovascular Training Statement (COCATS 4) provided guidance on prevention training during general cardiology fellowship, fewer than 25% of programs meet Level I training requirements. The absence of a subspecialty board examination and a lack of awareness among healthcare professionals and the general public have also hampered the field. In addition, many people mistake preventive cardiology for general cardiology or clinical lipidology, despite the fact that the prevention of cardiovascular disease encompasses a much broader scope and goes beyond

the risk of traditional atherosclerosis [2].

Specialized knowledge of cardiovascular anatomy and physiology, metabolism, genetics, sex, race, and ethnic group-specific risk factors, imaging, cardiac rehabilitation (CR), pharmacotherapy, and lifestyle management are required for preventive cardiology. According to the American Society for Preventive Cardiology (ASPC), the purpose of this document is to define the key characteristics that define the field of preventive cardiology in order to clarify the scope of this emerging field [3].

The ASPC was established in 1985 following the National Heart, Lung, and Blood Institute's recommendation of specific curricula to facilitate CVD prevention research and teaching in medical schools. From 1979 to 1996, the National Institutes of Health (NIH) Preventive Cardiology Academic Awards were given to approximately half of US medical schools. Many awardees went on to hold leadership positions in the American Heart Association (AHA) and ACC. Joseph Stirs up III, an eminent clinical specialist and preventive cardiologist, was the fundamental chief and pioneer behind the ASPC whose work changed the field of CVD counteraction. In 1990, Richard Carleton became the first president of the ASPC. Carleton was one of the first recipients of the NIH's Preventive Cardiology Academic Awards. He broadened the ASPC, ACC, and AHA's collaborations and broadened the organization's mission to include education on population health studies, blood pressure, lipids, exercise, nutrition, and clinical cardiology [4].

In the cutting edge period, a few ASPC pioneers extended the association's inclusivity, past scholarly world, to a more extensive crowd of medical services experts which presently envelops numerous disciplines, focused in the mission "to advance the counteraction of CVD, advocate for the protection of cardiovascular wellbeing (CVH), and disperse superior grade, proof based data through the schooling of medical care experts and their patients". The ASPC has proposed a common definition of preventive cardiology in order to carry out this mission: a proactive, patient-centered approach in which the clinician or a group of clinicians and non-clinicians evaluates cardiovascular risk and implements a comprehensive risk mitigation plan to avoid cardiovascular diseases and their clinical sequelae [5].

Preventive cardiologists and preventive cardiology specialists frequently

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classify risk based on the presence or absence of risk factors and/or clinical CVD when examining risk at the population or patient level so that interventions and therapy can be tailored appropriately. Upstream prevention will likely have the greatest impact on CVH as the burden of heart disease continues to rise. A general overview of the necessary fields of expertise is provided in the following discussion. The discovery of visible atherosclerotic plaque in coronary arteries during autopsies of young men killed in the First World War, the Korean War, and the Vietnam War has raised concerns that atherosclerosis may begin in childhood [6].

The causes of early atherosclerotic lesions were then discovered through research conducted in the 1980s and 1990s. Every person in the landmark Bogalusa Heart Study who had autopsies performed between the ages of 2 and 9 had evidence of a fatty streak in the aorta, and half of children between the ages of 2 and 15 had fatty streaks in their coronary arteries. The degree of atherosclerosis was correlated with blood pressure, BMI, and serum cholesterol. Given these findings, establishing a healthy lifestyle early in life should be the first step toward CVD prevention. Additionally, the identification and estimation of lifetime risk may have the greatest potential impact on heart disease prevention due to the influence of genetics and environment on risk [7].

It is less likely that people will be able to reverse ingrained poor health behaviors and the adverse cardiovascular effects that follow once risk factors like obesity, type 2 diabetes, sedentary behavior, and unhealthy diets emerge, which are becoming more common at younger ages. Subclinical atherosclerotic CVD, which eventually manifests as a myocardial infarction or stroke, can result from uncontrolled risk factors. Other cardiovascular and cardiometabolic diseases, such as heart failure, atrial fibrillation, obstructive sleep apnea (OSA), and non-alcoholic fatty liver disease, are exacerbated by many of these risk factors. On the off chance that these gamble factors are recognized and treated early, CVD is generally preventable. Over the course of a person's life, the relationship between risk factors and CVD is graded and constant; the best way to live a long and healthy life is still to reduce cumulative risk factors [8].

Discussion

In a 1978 paper that acknowledged the need for earlier preventive efforts at younger ages with the goal of "protecting whole societies from the penetration of risk factor epidemics," Toma Strasser proposed the concept of primordial prevention, which is the prevention of risk factors for cardiovascular disease. The environmental and social determinants of health are also taken into consideration in primordial prevention strategies. Unfortunately, our society continues to be plagued by unhealthy lifestyles, which have significant long-term effects on health and well-being. This recognition was brought to light in the Healthy People 2010 goals, which included revised goals for improving our nation's health. At the federal, state, and local levels, extensive policy adjustments are required to alter CVH's trajectory on a national scale. The AHA's 2010 Impact Goals, which defined CVH based on Life's Simple, were developed to aid in these efforts [9].

Life expectancy has decreased since 2014 in the United States, which has been lagging behind comparable nations since 1980. While a portion of this pattern might originate from transmittable sicknesses, an enormous extent is credited to expansions in overweight and stoutness, T2DM, hypertension, and metabolic disorder, which are all determined by absence of Dad, unfortunate dietary examples, and other unfortunate way of life factors. The situation has only gotten worse as a result of the COVID-19 pandemic. Projections indicate that life expectancy will fall by less than three years, with Black and Hispanic people experiencing disproportionate declines [10].

Conclusion

Although the majority of CVD-related events in the United States are caused by inadequate risk factor management, ideal CVH could prevent millions of these events annually. In order to have the greatest impact on improving cardiovascular health, our focus needs to shift from secondary prevention to primary and primordial prevention. So that we can provide complete care, we need to make advancements in risk factor screening and detection at the community and national levels and work with our colleagues in allied health. Also, healthcare professionals and policymakers need to work together to

implement new strategies and changes to regulations. To stop the coming tsunami of cardiometabolic diseases, it is necessary to make advancements in risk assessment and disease prevention.

Additionally, our current framework and approach must be altered. Preventive cardiologists, who focus on the practice of primordial, primary, and secondary prevention of all cardiovascular diseases, must lead in order to improve care, promote a healthy lifestyle, and ensure the correct dosing and titration of cutting-edge, life-saving pharmacotherapy. A dedicated fellowship and subspecialty board examination would also be helpful in achieving consensus regarding the field's definition. Preventive cardiologists are well-equipped to fill the void and remain at the forefront of CVD care if a significant reformation is required to close the significant gaps in our healthcare system. We hope that this ASPC document will help conceptually define the essential set of skills and knowledge required to specialize in this fascinating, rapidly expanding, and crucial field.

Acknowledgement

None.

Conflicts of Interest

None.

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