

Preventive Cardiology–From Risk To Resilience

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The concept of Preventive cardiology aimed to reduce the cardiovascular risk factors is charming and easy to understand but difficult to implement. Common preventable cardiac risk factors include diabetes mellitus, hypertension, smoking, obesity, dyslipidemia, sedentary and stressful life style. Evidence has shown that individuals with increased risk of cardiovascular disease (CVD) can reduce their risk of cardiovascular morbidity and mortality.¹ A recent report found that only 5% of patients with a BMI over 30 were defined as obese in a primary care-setting.¹CVD will continue to be the dominant disease effecting our life expectancy.² Framingham Heart Study (FHS) was designed to know the factors that determine the development of atherosclerotic CVD (ASCVD) and this study for the first time coined the term “risk factor” for coronary heart disease.³⁻⁴

World Health Organization (WHO) estimates that CVDs account for approximately 17.9 million deaths each year, with ischemic heart disease and stroke contributing to 85% of this burden.⁵ WHO’s “Global Action Plan for the Prevention and Control of Non-communicable Diseases” aim to reduce premature mortality from CVDs by 25% by 2025. According to WHO 60% of the world’s cardiac patients will be in South Asian region.⁶In early sixties, coronary artery disease represented 4% of all cardiovascular deaths in the region, while this number increased to more than 50% in 1990.^{6,7} Although heart diseases are decreasing in developed countries, but it is on the rise in low income countries. The impacts of this preventable epidemic are substantial in term of mortality and morbidity and economic costs.⁶Gross domestic product (GDP) could increase by 4-10

percent, in terms of macroeconomics, if non-communicable diseases (NCDs) were completely eliminated.⁷

By reduction of tobacco and salt over 10 years, in low income countries like Pakistan, India and Bangladesh, 13.8 million deaths could be prevented, at a cost of less than One dollar per person a year.^{9,10} Prevention is the smartest way to achieve these goals. It is therefore important to frame a nationwide comprehensive and integrated programme. This programme should have cardio-metabolic centers at tertiary care hospitals and satellite units in periphery. Social media, print media and other forums should be utilized for public awareness regarding preventive measures. Resources should be allocated for primary as well as secondary prevention. Identification and treatment of risk factors should be done at all levels and high risk patients should be referred to cardio-metabolic centers for primary and secondary prevention. By this way the cardiovascular epidemic can be prevented.

In contrast to other sub-specialties of cardiology, preventive cardiology should be open to other disciplines to provide dedicated longitudinal care. The preventive cardiology team should include not only cardiologist but include internists, endocrinologists, Nephrologists, cardiac rehabilitation expert, pediatricians, obstetrician/gynecologists, clinical pharmacists, clinical psychologists, dietitians, nurses, and advanced practice providers.

The creation of a dedicated sub-specialty aimed at preventing CVD will serve the cause.¹¹ Once preventive cardiology is developed as a separate

specialty of cardiovascular medicine, hospitals will need to integrate this service.

Many initiatives have been taken in different parts of developed and developing countries.¹²

The EUROACTION preventive cardiology program reduced the risk of cardiovascular disease compared with usual care mainly through lifestyle changes by families, who together made healthier food choices and became more physically active than before the intervention. This is a model of preventive cardiology, which has been successfully implemented and assessed, and can be used, in routine clinical practice. Models have been developed in Pakistan which need to be implemented with the support of the government.^{13,14}

Despite advancements, challenges persist in implementing preventive measures, particularly in low- and middle-income countries where healthcare resources are limited. The advent of digital health technologies, including wearable devices and telemedicine, offers new opportunities for personalized risk assessment and continuous monitoring.

A local guideline has been developed by Pakistan cardiac society for cardiovascular diseases. Both primary and secondary preventive interventions should be initiated simultaneously. Preventive cardiology theme should be encourage and highlighted at every forum using all available media. Strategies for prevention of heart disease should be taught in schools and colleges in easy and simple language. Preventive cardiology should be included in undergraduate and post graduate curriculum. Funds for Research and implementation of preventive measures should be allocated.

In conclusion, cardiovascular diseases rapidly increasing in the developing countries. Preventive cardiology is the most neglected part of patient care. It would be more logical to pay attention to prevention and more resources should be allocated for this purpose. In the future, the healthcare provider who wants to have the full set of competencies in preventive cardiology should undergo proper training and certification and the center that specializes in preventive cardiology must have the abilities to address this ever-expanding spectrum of patients

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