


Review Article

Dietary and Physical Exercise Facilitation for Cardiovascular Health in Indian Subcontinent

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The advent of industrialization and outburst of urbanization significantly influences the lifestyle of people. Further, the incidence of noncommunicable diseases, such as chronic lung conditions, cancer, cardiovascular diseases (including conditions affecting the heart and blood vessels), diabetes, hypertension, and obesity, has increased. The prevalence of cardiovascular diseases in India in 2016 was reported to be 54.5 million. One out of four deaths was associated with cardiovascular diseases. With time, the prevalence of cardiovascular diseases is exerting more impact on the younger Indian population aged 20-29 years. The foremost risk factors for disability-adjusted life-years include poor dietary habits, tobacco use, and low physical activity. A healthy diet and an optimum physical activity level should be projected as primary interventions for noncommunicable diseases in the Indian subcontinent. Government health organizations and associations should concentrate and prioritize the current situation and scale up cost-effective policies and innovative techniques with interventional research and funding, especially on diet and exercise facilitation, as comprehensive management toward minimizing cardiovascular diseases to safeguard Indian economy's future.

Keywords: Cardiac rehabilitation, Diet, Exercise, Physical fitness, Rehabilitation

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INTRODUCTION

The lifestyle of the society has been significantly impacted by the Industrial Revolution and Urbanization. Alongwith this, there has been acceleration in the incidence of non-communicable diseases: Chronic lung conditions, Cancer and Cardiovascular diseases (including conditions that affect heart and blood vessels), Diabetes, Hypertension, and obesity to name a few [1]. In 2016, prevalence of the cardiovascular disease in India was 54.5 million. 1 out of 4 deaths was associated with cardiovascular disease [2]. With passage of time prevalence of cardiovascular disease is exerting more impact on the younger Indian population from 20 to 29 years [1]. Same study also revealed extent of cardiovascular disease in India found to be 2% more in comparison to their western counterpart's [1]. Although India pose limited documented data on the degree of non-communicable disease outburst [3], a study found 61.8% death due to non-communicable disease and 27.5% death from communicable disease of all the death caused [4]. Primarily, this outbreak occurred due to rapid urbanization and social excitement [5]. This social transformation promoted causing inclination towards unhealthy diet, decline in physical activity and rise in tobacco consumption [5]. With this started healthcare and financial burden on the personal and society, and unknowingly on nation's economy and society in terms of negative health projection. Slowly it started becoming a barrier for development and progress of the country. Prototype studies calculated 4%-10% growth in growth domestic product, only if non-communicable diseases' are completely eradicated [6].

SOCIAL RISK FACTORS

According to article titled "The changing patterns of cardiovascular diseases and their risk factors in the states of India: the Global Burden of Disease Study 1990-2016" published in December, 2018, prevalence of cardiovascular diseases including disability have risen to more than doubled in India from 1990 to 2016 [7]. Many studies proven burden of cardiovascular disease linked with blood glucose concentration, high blood pressure, unhealthy dietary exposures, total cholesterol, and tobacco use and obesity. Foremost danger factors for disability adjusted life-years are poor dietary habits, tobacco use and low physical activity. A study expressed nine simply calculated and potentially adaptable hazard for massive (more than 90%) proportion of the preliminary risk factors of the Myocardial Infarction, particularly in young generation was preventable [1].

INITIATIVES TAKEN BY STAKEHOLDERS

Concern of wellbeing for the people of its country is a prior most concern. The Indian government spends enormous funds on healthcare for controlling and reducing drastic impact of non-communicable diseases' on its population. The Ministry of Health and Family welfare, timely frames guidelines and setup plans to manage and avert various non-communicable diseases [8]. For this reason, a national program in India for prevention and control of Cancer, Cardiovascular diseases, Diabetes and Stroke for the Elderly was introduced in the year 2010 and later extended from 2010 to 2030 [8]. Further, strategic steps as recommended by the World Health Organization (WHO) framework towards household use of solid fuel and consumption and sale of Tobacco products have been looked after by the concerned authorities of the Indian government [9]. In addition India adopted the Essential Diagnostics List and Ministry of Health as the National Free Diagnostic Service ambition, 2015, with the aim to impart complimentary diagnostic testing of people who visiting Public Health Facilities as per the Essential Diagnostics List designed by WHO [2]. At the utmost, WHO considers and projects consistently developing of cost effective preventive interventions to control cardiovascular disease by modifying dietary habits, increasing level of physical activity [10]. Benefits of exercise on human health have been witnessed since Biblical period [11]. Human body has been acclimatized to execute physical activity on routinely basis and deterioration in such activity, which is evident in the contemporary period in almost all parts of the world has created a discrepancies thereby causing sever maladaptation [12].

ADOPTED STEPS BY THE DEVELOPED COUNTRIES

Contrary, developed countries have adopted the strategies long back which has helped them in controlling incidence of cardiovascular diseases to greater extent and thus promoting positive cardiovascular health. Developed countries invest massive funds for conducting and continuing of preventive research measures to control and reduce incidence for any present or future lifestyle diseases. Research work have been completed successfully and going to estimate impact of diet and using variable modes and methods of physical activities on non-communicable diseases in different age group of population across the world.

LIMITING FACTORS FOR INDIA

India lacks preventive research, due to factors such as limitations with skilled workers, funding and primarily vested interest of pharmaceutical companies to promote their sales. The value potency of pharmacological interventions for hypertension and cholesterol confide in total cardiovascular danger of the person is doomed higher before its intervention. However, medical treatment only be validated in higher risk patients and to some extent in moderate risk population.

NEED FOR THE CONSERVATIVE AND PREVENTIVE INTERVENTION

While patients with minimal projection or doubtful for future involvement should chose mode of intervention not only promotes relief from symptoms, nevertheless also causes potential hazards with a high cost. Additional value of behavioral modifications in lifestyle with professional guidance, based on public health strategies brings more prosperity especially in the low risk people [13]. Never there has been documented negative impact of healthy eating habits and physical activity on human body. Rather, this strategy has always promoted emotional, mental and physical wellbeing among individual wherein the same has been emphasized in ancient time for the purity of body and soul.

The government of India has instituted grants for studying impact of “YOGA” on different health portfolios. However, initiatives for research projects in relation to dietary habits and physical activity levels are still lacking. Further, in secondary preventive measures, medications, surgical and diagnostic procedures have been adopted in India as per WHO guidelines. Many research conducted in developed nations have witnessed positive impact of cardiac rehabilitation (CR) including dietary habits on quality of life (QoL) of the person [14]. Studies recommended, despite the revascularization procedures were successful, lifestyle modification and pharmacological management are vital for future prevention of graft deterioration and progression of atherosclerosis intensive comprehensive management [15].

ROLE OF CARDIAC REHABILITATION AND EXERCISE

CR has become an important arm in primary and secondary prevention regimen but despite its positive benefits in cardiovascular mortality and re-hospitalization of patients, they are limited in use by the Indian healthcare [16]. Merits

of CR have already been endorsed with numerous studies proving 20% decline in heart-related death and illness and 28% reduction in danger for hospital admissions [17]. Along with minimization of hazards of nonfatal strokes, heart attacks and aggravating symptoms of heart failure also pushed to its lowest bucks. Advancements in QoL and activities of daily living and reduction in measures of depression and anxiety have been significantly documented [17]. Additionally, daily exercises as an easy, non expensive interference has been advocated to enhance cardio-respiratory fitness, a firm measure of good metabolic health, lesser morbidity and minor danger of mortality [12]. Thus positive effect of exercises are not only limited to improvement in QoL, rather regular exercise enhance activity of cardiac autonomic nervous system regulation, activate anti-atherogenic adaptation in vascular function and structure, promote healthy anti-inflammatory environment, boost the myocardial regeneration capacity [12].

CONCLUSION

A healthy diet prescription and optimum level of physical activity should be projected as primordial intervention for reducing the incidence of non-communicable diseases' including cardiovascular diseases in the Indian subcontinent. To safeguard Indian economy, specified governmental health organization and associates should concentrate and prioritize on the current situation and scale up cost effective policies and design innovative techniques following interventional research and funding, as comprehensive management towards minimizing cardiovascular diseases.

NOTES

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