PREVALENCE OF CORONARY HEART DISEASE (CHD) AMONG ASIAN INDIANS - AN OVERVIEW

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ABSTRACT

Coronary Heart Disease (CHD) occurs when the arteries of the heart that normally provide blood and oxygen to the heart are narrowed or completely blocked. CHD is a progressive disease with an untreated annual mortality rate of 4% per year in patients with chronic stable angina before the advent of widespread use of aspirin, beta blockers, and risk factor modification. Implementation of appropriate CHD secondary prevention is needed more broadly in India. This paper reveals about a review about the Prevalence of coronary Heart disease (CHD) among Asian Indians.

Keywords: Coronary Heart Disease, beta blockers, angina, mortality.

INTRODUCTION

Heart disease is a leading cause of death for older homeless adults, Factors that contribute to homeless people’s high risk for cardiovascular disease include heavy smoking; excessive use of alcohol, cocaine and other drugs that elevate blood pressure and damage the heart poorly controlled hypertension, hypercholesterolemia and diabetes; poor diet and visceral obesity; chronic emotional or psychological stress; limited access to preventive and remedial health care and periodontitis, which is associated with atherosclerotic cardiovascular disease and is exacerbated by lack of oral health care.[1,2]

Globally, cardiovascular diseases are the number one cause of death and they are projected to remain so. An estimated 17 million people died from cardiovascular disease in 2005,
representing 30% of all global deaths. Of these deaths, 7.2 million were due to heart attacks and 5.7 million due to stroke. About 80% of these deaths occurred in low- and middle-income countries. If current trends are allowed to continue, by 2030 an estimated 23.6 million people will die from cardiovascular disease. The incidence, prevalence, morbidity and mortality from coronary artery disease (CAD) among Asian Indians have been reported to be higher than among Europeans, Americans and other Asians, irrespective of whether they live in India or abroad. The CAD prevalence has increased in urban areas from 2% in 1970 to 2.5% in 1980, 4% in 1990 and 4.5% in 2000.[2]

In India at 1.6 million in the year 2000. A total of nearly 64 million cases of CVD are likely in the year 2015. Cardiovascular diseases account for high morbidity and mortality all over the world. Countries where the epidemic began early are showing a decline due to major public health interventions. Coronary heart disease is more prevalent in Indian urban populations and there is a clear declining gradient in its prevalence from semi-urban to rural populations.[2]

**Cardiovascular diseases**

Coronary heart disease (heart attacks), Cerebrovascular disease, Raised blood pressure (hypertension), Peripheral artery disease, Rheumatic heart disease, Congenital heart disease, and Heart failure.

**Causes**

This increase in CVDs could be attributable to (i) increase in the population size due to natural growth, (ii) ageing of the population which makes people more vulnerable to chronic diseases at older ages, and (iii) increased vulnerability due to lifestyle changes.[3]

**Risk Factors**

Risk factors for CVDs have been categorized as behavioral, anthropometric and biochemical. Several epidemiological studies conducted on the prevalence of CVD risk factors have indicated to an increasing scenario. The ICMR conducted a multi-centric study at different places in India with WHO support. The behavioural and anthropometric risk factor study was done between 2003-2005 (Phase I) and in a sub-sample (20%) of Phase I participants, biochemical risk factors were estimated in 2005-2006 (Phase II). The final analysis for Phase I was done on 44491 subjects across all centers. In Phase II the final samples size available for analysis was 7876 subjects. Smoking forms of tobacco was more common than smokeless
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tobacco use. Many factors like seasonal and regional variation in consumption patterns, fasting or religious beliefs, consumption of tubers and roots, non-capture of casual (non-meal) consumption of fruits, etc., influenced the results. Tobacco use, an unhealthy diet, and physical inactivity increase the risk of heart attacks and strokes. High blood pressure has no symptoms, but can cause a sudden stroke or heart attack. Diabetes increases the risk of heart attacks and stroke. Being overweight increases the risk of heart attacks and strokes. Low socioeconomic status increases the chances of exposure to risk factors and increases the vulnerability to develop CVD. [4]

Prevention
The need of the hour would be to increase the awareness of risk factors for CAD among general public. Those at low risk could be asked to modify their lifestyle, bring out dietary changes and increase in physical activity. Those at high risk (i.e., known family history of CAD and abnormal lipids) once identified could be put on medication. Preventive strategy is essential to reduce risk factors and thus reducing the alarmingly increasing burden of CAD in our population.

Eating healthy food & Engage in physical activity, Stop tobacco use, Use simple charts to determine your risk of developing a heart attack or a stroke. Check your blood pressure and cholesterol regularly. If you have diabetes, control your blood pressure and blood sugar to minimize your risk. [5]

Prevalence
Incidence and prevalence are both measures of the extent of disease in a population. In contrast to incidence, prevalence is a static measure of the proportion of a population that is diseased, whether the disease cases occurred recently or at some time in the past. Prevalence measures reflect already existing disease. Incidence tells us about a change in status from non-disease to disease, thus being limited to new cases. Prevalence includes both new cases and those who contracted the disease in the past and are still surviving. [6]

Prevalence of hypertension in an affluent north Indian population
Researchers studied the prevalence of pre-hypertension and hypertension, as well their association with cardiovascular risk factors, in a north Indian upper socio-economic population. A high prevalence of pre-hypertension and hypertension were noted in affluent urban north Indians. Increasing age, body mass index, central obesity and impaired glucose
tolerance/diabetes were significantly associated with both hypertension and pre-hypertension. Pre hypertension was associated with an increased prevalence of cardiovascular risk factors.\[7\]

**Prevalence of Essential hypertension in the rural population of India**

The prevalence of essential hypertension in the rural region Mullana block, Haryana, was higher than previously reported. Implementation of an effective awareness programme including lifestyle modification is necessary to control the cardiovascular disease burden in this population.\[8\]

**Prevalence of Coronary Artery Disease and its Risk Factors in an Urban Population in India**

A survey was carried out in two localities of Tenali town, Andhra Pradesh (A.P) namely Gandhinagar and Nazarpet between July 2009 and October 2009. A total of 534 people aged 20 years and above in randomly selected houses in each street of the 2 localities were examined. All of them underwent oral glucose tolerance test and lipid profile estimation and a 12-lead electrocardiogram. CAD was diagnosed based on previous medical history and documented myocardial infarction and/or coronary intervention procedures or Minnesota coding of ECGs.

Observations from our community based study indicate that prevalence of CAD in urban Andhra Pradesh is alarmingly high as observed in other parts of India and urgent steps are to be taken to adopt life style changes and to control risk factors.\[9\]

The predilection for Indians to manifest diabetes mellitus and its attendant complications, including CHD, is not fully understood and presents a great challenge for researchers, given the current prevalence and projected increases in diabetes mellitus. Clinical trials are increasingly common in India, but clinical registries that document the current state of CHD in India are lacking. The dearth of such data limits the ability to evaluate effectiveness and penetration of CHD interventions at the community level.\[10, 11\]

**CONCLUSION**

In conclusion, there was a high prevalence of coronary heart diseases in an affluent Indian community. The future of surveillance systems lies in its timeliness, systems approach and enduring partnerships.
REFERENCES