REVIEW ARTICLE

A Review: Prevalence of Sedentary Life Style Changes among the Cardiac Disease Patients

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Abstract:

Sedentary life style plays an important role in the cardiac patients. As lack of physical activity and taking junk food leads to cardiovascular diseases (CVDs) such as Hypertension, Myocardial infarction, Angina pectoris, Atherosclerosis, Congestive Cardiac failure, Arrhythmia. The extent of the heart disease in India is mainly depending on the factor such as changing life style, aging and food habits and other rapidly involving socio-economic determinants across developing factors. Recent studies show that CVDs have outgrowth the barriers of gender, local and economic status. CVDs are slowly reaching out to all sections of the society. Large scale and widespread incidence shows downgrading of the cardiovascular health status of Indians and emergence of CVDs as a chronic manifestation across the population.

Keywords: Cardiac Diseases, Dietary Modifications, Physical Inactivity, Risk Factors, Sedentary Life Style Changes.

Introduction:

Man always tries to reduce the physical activity since born. The technical advancement and increasing in the knowledge have provided man with so many facilities that reduce physical and extra muscular activity such as car, aero plane, and accelerator and also there an increased in the time spend sitting down at workplaces, schools and public place [1]. When compared with our grandparents we have a short-term lifespan and having high risk of affecting non-communicable disease. This was because of, they were participated in physical activities like fishing, farming, and hunting. This helps them to make resistant to various disease conditions. Health as quality of life is the result of diverse factors and life style is one of the most powerful determinants of health [2].

In 17th century BERENADINO RAMAZZINI, an occupational physician discovered that sedentary life style was associated with physical inactivity has an adverse effect on human metabolism, cardiac output, physical function and well being [3]. According to a survey report conducted in 2008 by the United States national health survey found that 36% of total adults are totally inactive, and 59% of persons have never participated in any physical activity lasting longer than 10 minutes in a week. Despite the well-known physical activity, many adults and children lead sedentary lifestyle.

According to world health report 2002, cardiovascular diseases will be the largest cause of death and disability by 2020 in India.

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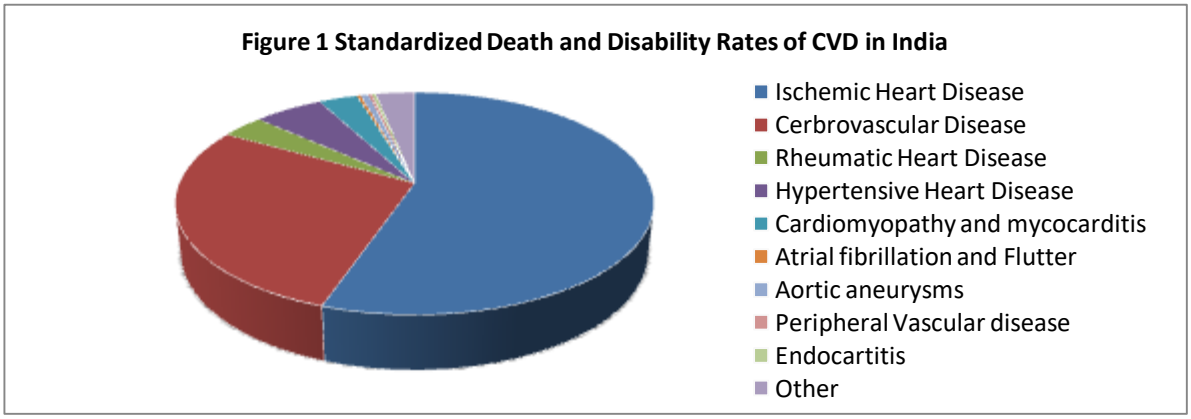
So the aim of this paper is to investigate the concept of sedentary life style and examine the factors enhancing it in Indian population [4].

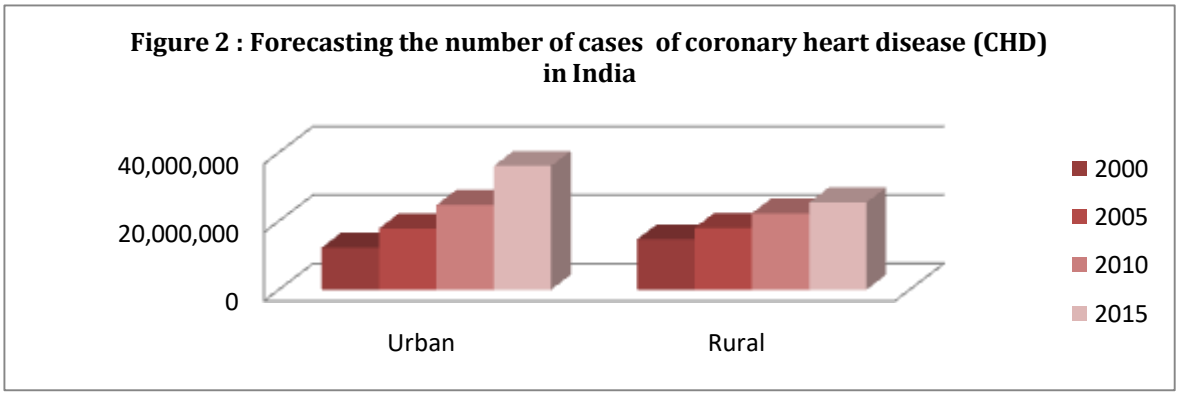
Concept of sedentary life style

The word sedentary life style derived from "sedere" a Latin word which means that "to sit" a term associated with behaviours and activities which needs a low energy expenditure. The expenditure can be measured in terms of metabolic equivalent task (MET). The sedentary life style is a class of behaviors characterized by little or no physical movement and low energy expenditure less than 1.5 MET'4s. Running expends energy with off 8 MET and 3 to 4 in brisk walking. So the sedentary lifestyle includes sitting at work, home, business centers, long screen time, and leisure time and some individuals classified as a sedentary because of physical inactivity while others are classified based on the engagement inactivity that don't require high energy consumption.

Fig: 1 Current scenario in India

The Indian health care system shows its extreme fly over the last decades, but still now it was alone way to go before to meet with the international standards. The health care finance is an important issue. In 2010, the total GDP spends for the health care system was 50%. The extent of the heart disease in India is mainly dependent on the factor such as changing life style, aging and food habits and other rapidly involving socio-economic determinants across developing factors. The rapid urbanization of India results with 31.8% of Indians living in urban areas, and the growth is three times faster than rural areas, which led to a lot of issues such as low physical activity, un hygiene and overcrowded living conditions, growing levels of stress and higher exposure to pollution. Smoking is an important etiology for atherosclerosis and twice the chance of death cases from coronary diseases [5]. From register general of India from 1990s the proportion of the mortality due to coronary diseases or the circulatory systems diseases in a static range of 15%-17% [6]. The report of the stroke prevalence study illustrates a substantial burden of stroke in both urban and rural areas [7]. According to the statistical data the age standardized CVD death rate of 272 per 1,00,000 population in India is higher than the global average of 235 per 100 000 population (Fig.1) [8]. This data reveals that most of the death occurring cases are related to cardiac diseases in India. However, there is a major gap in knowledge, especially regarding the causes of death in rural India; Global Burden of Disease estimates are based on smaller community based studies[9].





Risk factors

With the changes in the development, India has gone through dramatic lifestyle changes which include changes in the dietary changes – a shift from aggressive diet and active lifestyles to fast food and sedentary lifestyle which disease the span time than other nation. Recent studies show that CVDs have outgrowth the barriers of gender, local and economic status.

The risk factors includes

1. Gender

According to the reports of the incidence rates in (percentages) by the National Commission Dr.Maeo economics and Health (NCMD) states that from 2000 to 2015 the number of the urban males with an age group of 26 to 29 years age group suffering from CHD will be almost double and the females of the same age group will keep up with their pare. When the prevalence rates in the estimated data were compared areas age groups, i.e., from 20-69 years in males and females, an increasing trend was obtained. On comparing with percentage of incidence of males and females across age groups from 2000 to 2015 (Fig: 2), a similar pattern is estimated where in more number of females will suffer from CVD at a large age as compared to men [10].

2. Rural and Urban

According to the study of 2015 the mortality rate due to acute coronary syndrome (AIS) was 5.5% for that, while that for poor was 82%. The ICMR – WHO study on burden of disease reviewed literature till 2003 on NCDS. In 2003, the prevalence of CHD in India was estimated to be 3-4% in rural areas and 8-10% in urban areas with a total 29.8 million off less [11].

3. Dietary factors

High intake of saturated fats, cholesterol and salt and salt and low intake of fruits, vegetables and fiber are linked to higher incidence of cardiovascular diseases [7,8,9, 12, 13, 14, 22 & 24]. The street foods, fried and stuffed balls with potatoes, pulses and spices are very popular in India, the deep fried and highly saturated fatty foods will increase to risk of heart disease [15 & 16].

Sedentary Lifestyle and Vitamin Deficiencies

Sedentary life style is associated with vitamin deficiencies especially vitamin B and D which can lead to other health conditions like Osteoarthritis. The displacement from natural outdoor environment to an indoor sedentary lifestyle and avoidance of ultraviolet ray of the sun as a means of checking cancer has resulted in high incidence of vitamin D deficiency which in turn leads to various bone diseases and organ malfunctions such as osteoarthritis, hypertension, heart failure and other vascular diseases [17].

4. Obesity

The major problems for the both developed and developing country is obesity [18]. Across India the prevalence rates of obesity among women with an age group of 15-49 years was found to be 10.6 to 14.8% [19].

Sedentary Lifestyle and Obesity in Children

There is a strong courting among variety of hours of display screen time and obesity in kids and teens. TV viewing, video and laptop video games are risk factors for weight problems in children and teens especially on this laptop age [20].

Sedentary Lifestyle and Obesity in Adults

Between 50 – 75 % of adults aged 35 – 64 are either overweight or obese among the number of Indian population [21].

5. Disease

Disease conditions have a primary role in the development of cardiovascular disease wherein improper sedentary lifestyles fashion will result in type 2 diabetes mellitus and high blood pressure. Presently type 2 diabetes mellitus and hypertension are the two principal instances may be seen because of improper balanced sedentary lifestyles.

Sedentary Lifestyle and Type 2 Diabetes

It is a well known fact that physical inactivity plays a key role in diabetes mellitus especially type 2 which was formally known as non – insulin dependent diabetes which results from the body‟s inability to effectively utilize insulin. Sedentary behaviors such as prolonged screen time, sitting time, driving and reading time among others are behaviors strongly associated with increased eating and weight gain which favour diabetes mellitus [22].

Sedentary Lifestyle and Cardiovascular Impact

The cardiovascular system is the part of the body that contains the heart, arteries and veins. It is responsible for pumping blood throughout the body thereby providing a rapid-transport system to distribute oxygen to the body cells and also remove carbon dioxide from the body with other waste products. The cardiovascular system consists of the heart and blood vessels. By the process of contraction and relaxation, the heart muscle pumps blood throughout the body within 20 seconds when the body is at rest, cardiovascular disease as one caused by unhealthy lifestyle including smoking, poor diet and sedentary behaviour [23].

Conclusion

In fact, the prevalence in India is higher work routines, cultural influences, etc. This means that India's productive population is getting affected causing an economic set back to the country. In older age groups, an increased prevalence can be collated to the demographic transition in India with a sharp decline in the death rate as well as the birth rate. To conclude, CVDs are slowly reaching out to all sections of the society. Large scale and widespread incidence shows downgrading of the cardiovascular health status of Indians and emergence of CVDs as a chronic manifestation across the population.

This affects the country's productivity owing to economic burden in an otherwise beneficial phase of demographic transition. Need of the hour is to track down and closely monitor the prevalence of disease and tackle it with aggressive, effective and efficient

intervention policies that aim at prevention, control and treatment of CVDs in all sections of the population. More efforts are needed to encounter the epidemic at the level of risk factor prevalence.

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