## LIFESTYLE DISEASES: AN EMERGING HEALTH BURDEN

Davina Hijam Kshetrimayum Roshita Devi

Associate Professor, Dept. of Biochemistry Senior Resident, Dept. of Biochemistry

Regional Institute of Medical Sciences, Regional Institute of Medical Sciences,

Imphal, India. Imphal, India.

davina\_hijam@yahoo.co.in kshetriroshita@gmail.com

ABSTRACT

Lifestyle diseases are certain diseases that developed based on the day to day habits of human beings i.e with individual’s lifestyle. A sedentary lifestyle and lack of physical activity lead us to do unhealthy things which can harm our health. Exposure to modifiable lifestyle behaviours – smoking, alcohol intake, unhealthy diet and inactivity for a long time results in many chronic non-communicable diseases (NCDs), such as cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, obesity. The emergenge of such diseases become major threat leading to increase morbidity, mortality and a threat to socio-economic aspects of nationwide and cost of health care. Creating public awareness, early detection, health promotion, stronger health care system are need of the hour to prevent from such lifestyle diseases.

 Keywords— Lifestyle disease; non-communicable diseases; modifiable risk factors

# INTRODUCTION

 Lifestyle diseases are certain disease conditions that are primarily based on daily habits and practices of an individual. Habits that to decrease in physical activity leading them towards a sedentary lifestyle can cause a number of healths relate problems ultimately leading to chronic non-communicable diseases that can have near life threatening complications. Globalization and economic progress have been accompanied with an increase incidence in lifestyle diseases. Prolonged exposure to modifiable lifestyle behaviours - smoking, alcohol intake, unhealthy diet and physical inactivity result in the development of chronic diseases like cardiovascular disease, diabetes, obesity, metabolic syndrome, chronic obstructive pulmonary disease, and some types of cancer. Non-communicable diseases (NCDs) account for around 40 million people death every year that is around 70% of all deaths globally. Such diseases can lead to loss of independence, chronic disability, or death and a great economic burden on health system. The latency period of NCDS are generally long stretching from many years to several decades. According to a report published by ICMR (Indian Council of Medical Research) in 2017, 3 of 5 leading individual causes of disease burden in India were NCDs, with ischemic heart disease and chronic obstructive pulmonary disease as the top two causes and stroke as the fifth leading cause. Therefore, lifestyle diseases posses a major health issue worldwide.

II.CAUSES OF LIFESTYLE DISEASES:

**A. Modifiable behavioural risk factors:** Poor nutrition, overeating, decrease physical activity and consumption of junk food can lead to development of lifestyle disorder. Excessive use of alcohol, tobacco smoking, lack of physical activity, disturbed sleep increases the risk of NCDs. Sedentary life and the stress related to work is now considered as a major risk factor for various lifestyle diseases.. According to CDC (Centers for Disease Control and Prevention) poor sleep has been found to contribute to increasing incidence of modern non communicable diseases.

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## **Non-modifiable risk factors:** They are certain riskfactors that cannot be changed by application of an intervention as follows-

## **Age:** As we age, our body has a harder time protecting itself

## **Gender:** The risk of heart disease is more in males compared to females. On the other hand breast cancers are more common among females than in males.

##  **Race :** African Americans have more chance to develop high blood pressure compared to their Europeans counterpart but Asian Americans historically have had a lower incidence of heart disease than European..

##  **Genetics:** The chances of developing certain lifestyle diseases depend on the genetic makeup of an individual and goes in family.

**Major lifestyle diseases are of concern globally are:-**

## **Cardiovascular diseases (CVDs)**

 CVDs are related disorders affecting the heart and its blood vessels. They include coronary heart disease, cerebrovascular disease, peripheral arterial disease etc . They are the leading cause of death globally which accounting for more than 17 million deaths per year. The number is estimated to rise to more than 23 million a year by 2030. A person’s lifestyle has an important impact in the development of CVDs.

There are different manifestations of CVD. They are

**Coronary Heart Disease (CHD) or Ischemic Heart Disease (IHD):** Inability of the heart to function properly due to inadequate blood supply to heart as compared to its needs, which may be the result of obstruction to the coronary circulation to heart. It may be manifested as:

1. Angina pectoris
2. Myocarcial infarction
3. Cardiac failure

 The annual number of deaths from CVD in India is projected to rise from 2.26 million (1990) to 4.77 million(2020). Heavy smoking and sedentary lifestyle is responsible such increase in the number of cases.

**Cerebrovascular disease (strokes and TIA)** : They are group of diseases and disorders which affect the blood flow and blood supply to the brain. The most common presentation is an ischemic stroke or mini-stroke. Hypertension is the most important contributing factor for stroke.

**Peripheral arterial disease:** Here there is the narrowing or blockage of the blood vessels that carry blood from heart to the arms and legs. It results mainly from the thickening of the arterial wall due to arthrosclerosis Claudication is a common symptom seen in patients with peripheral arterial disease

**Preventive measures of cardiovascular diseases**

Cardiovascular diseases being the most common lifestyle disease, prevention steps can initiated as early as possible. Dietary modification is the foremost preventive measures that can be taken up for prevention of CVDs.

WHO recommendations:

* Serum Cholesterol/HDL ratio<3.5
* Reduce intake of fat < 20-30% of total energy intake
* Consumption of saturated fats <7% of total energy intake
* Eating more fruits and vegetables
* Reduction of salt intake to < 5gms per day
* Avoid of smoking and alcohol consumption
* Undergoing Regular exercise

## **Diabetes** Diabetes is a chronic metabolic non- communicable disease which is characterized by elevated levels of blood glucose, due to decreased insulin level or increased resistance of the body to insulin. It may lead to serious damage to heart, blood vessels, eyes, kidneys and nerves. About 422 million people worldwide have diabetes and 1.5 million deaths are directly attributed to diabetes each year. Estimates in 2019 indicate that 77 million people in India have diabetes, which is expected to rise to over 134 million by 2045. Among the different types of Diabetes, Type 2 is the most common in the world and is caused by obesity and sedentary lifestyle.

**Diagnostic Criteria for Diabetes:**

Fasting plasma glucose ≥126mg/dL (7.0mmol/L), Or

OGTT 2-hour plasma glucose ≥ 200mg/dL (11.1mmol/L), or

 A1C ≥6.5% (48 mmol/mol).or

In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200

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**Prevention of diabetes**

Type 2 diabetes results mainly from insulin resistance due to obesity mainly as an out come of unhealthy lifestyle factors and genetics. This runs in the family. Certain ethnic groups like African Americans, Hispanics, and Native Americans are also at a greater risk for developing diabetes. Aadopting a healthy lifestyle by keeping a healthy weight through a healthy diet and physical activity plan is very important in the prevention of diabetes . WHO recommends adults aged 18-64 years should do at least 150-300 minutes of moderate intensity aerobic physical activity or at least 75-150 minutes of vigorous intensity aerobic physical activity throughout the week. The best way to prevent diabetes is to take control of the modifiable risk factors such as diet, weight and exercise, along with the medicines like oral hypoglycaemic drugs and insulin injections. Avoidance of tobacco, alcohol consumption also contributes to healthy lifestyle.

## **Cancer**  Cancer is a disease where cells proliferate uncontrollably and invade other normal tissue of the body. Uncontrolled cell growth may result from damage to certain genes that regulate cell division. These genes can be damaged in a variety of ways like exposure to viruses, radioactivity and ultraviolet radiations, tobacco, asbestos. It is one of the leading causes worldwide, accounting nearly 10 million deaths in 2020. Around one-third of deaths from cancer are due to tobacco use, high BMI, alcohol consumption, lack of physical activity and low fruit and vegetable intake. The most common cancers are cancer of cervical, lung , breast, prostate, colorectal cancer.

## **Prevention of cancer** All exposure to carcinogens in our daily lives can lead to causation of cancer. But some of them can be avoided. Some of the measures that can prevent cancer are:

1. Avoidance of smoking : Tobacco kills more than 8 million people each year, out of which around 1.2million are non-smokers being exposed to second hand smoke. In India, tobacco-related cancers accounted for 27% of the country’s cancer burden in 2020 according to the Indian Council of Medical Research. Tobacco use can cause cancers of mouth, throat**,** esophagus, lungs, pancreas and colon.
2. Healthy diet plan: People who eat more of saturated fats are more likely to develop cancer of colon and rectum. Studies suggest that people who eat more fruits, vegetables and high fiber foods have lower risk of cancers. Diet rich in vitamin C may protect against stomach and esophagus cancer. Phytochemicals which occur naturally in plant foods are thought to be anticarcinogenic.
3. Limit exposure to UV radiation: Prolonged and excessive exposure to damaging UV radiations are prone to skin cancer. Ionizing UV rays can damage the DNA in cells causing cancer. Basal and squamous cell cancers are found to be more on sun exposed parts of the body. Exposed areas of skin can be protected by applying sunscreen and clothing, even on cloudy days. Reduction of exposure to man-made sources of UV rays like sunlamps and tanning beds, black-light lamps can help in prevention of skin cancers.
4. Maintain a healthy weight: Studies have shown that regular physical activity are linked to lower the risk of several types of cancer. A meta-analysis of 38 cohort studies had shown that physically active women had 12-21% lower risk of breast cancer than those who were least physically active. The risk for bladder, colon, endometrial, esophageal cancers are also found to reduce in individuals who are engaged in the highest level of physical activity.

## **Chronic respiratory diseases (CRDs)** Chronic respiratory diseases affect the lungs and the airway tract. The most common CRDs are chronic obstructive pulmonary disease (COPD) and asthma. Smoking and high BMI play a relevant role for risk of developing asthma whereas, smoking, ozone pollution, occupational exposure to particulate matter, gases, fumes, as well as second-hand smoke, play an important role for the development of COPD. Genetics and age are important non-modifiable contributing factors associated with CRDs. Thus it can be prevented by controlling the modifiable risk factors like tobacco smoke, air pollution, dust and chemicals.

# CONTROL AND PREVENTION OF LIFESTYLE DISEASES

 Lifestyle diseases have emerged as an important health issue globally. As per WHO, lifestyle diseases have become major contributors to higher morbidity, mortality and are a threat to the socio-economic aspects of nations globally. Promoting healthy lifestyle choices by increasing awareness through campaign, providing education and information and creating supportive environment that encourage healthy behaviours is considered the need of the hour. A comprehensive approach from all sectors including health care providers, finance, education, government as leaders, planning, and stronger health care system is essential to minimize the impact of lifestyle diseases. Strengthening health system by improving access to affordable, high quality health care services can help in preventing and managing lifestyle diseases. Continuous monitoring is important to ensure the interventions meet the set targets and goals for control and prevention of lifestyle diseases.

# CONCLUSION

 Lifestyle diseases is an emerging health concern worldwide. A sedentary lifestyle leads us to do unhealthy things which could harm our health. It is high time to spread awareness among the public about the benefits of adopting healthy lifestyle such as regular physical activity, cessation of tobacco consumption, controlling body weight, eating fruits, vegetables and high fibbers diet, and learning to cope with stress, to reduce the risk of various lifestyle diseases. These NCDs are preventable by adopting healthy habits and behavioural choices. Furthermore, effective public health measures are the need of the hour to promote and improve health world wide. There is no better time than now to start living healthy!

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