LIFESTYLE DISEASES: AN EMERGING HEALTH ISSUE

 Davina Hijam

Kshetrimayum Roshita Devi

Post Graduation Trainee: Dept. of the Biochemistry

Regional Institute Of Medical Science

Imphal, India

kshetriroshita@gmail.com

Assistant Professor: Dept. of the Biochemistry

Regional Institute Of Medical Science

Imphal, India

davina\_hijam@yahoo.co.in

ABSTRACT

Lifestyle diseases are ailments that are primarily based on the day to day habits of human beings. A sedentary lifestyle lead us to do unhealthy things which can harm our health. Prolonged exposure to modifiable lifestyle behaviours – smoking, alcohol intake, unhealthy diet and inactivity result in many chronic non-communicable diseases (NCDs), such as cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, obesity. NCDs become major contributors to higher morbidity, mortality and a threat to socio-economic aspects of nations worldwide. More public awareness, 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 ailments that are primarily based on the day to day habits of human beings. Habits that detract people from activity and push them towards a sedentary routine can cause a number of health issues that can lead to chronic non-communicable diseases that can have near life threatening consequences. 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, specifically cardiovascular disease, diabetes, obesity, metabolic syndrome, chronic obstructive pulmonary disease, and some types of cancer. Non-communicable diseases (NCDs) kill around 40 million people each year, that is around 70% of all deaths globally. Chronic disease can result in loss of independence, years of disability, or death and impose a considerable economic burden on health services. 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 are a major health problem globally.

# CAUSES OF LIFESTYLE DISEASES:

## **Modifiable behavioural risk factors:** Poor nutrition resulting from skipping meals, overeating, oily-fried sugary meals can lead to development of lifestyle disorders. Excessive use of alcohol, tobacco smoking, physical inactivity, wrong body posture, disturbed sleep pattern increase the risk of NCDs. Sedentary life and the stress related to work is also being seen as a potent risk factor for various lifestyle diseases. Lack of physical activity may lead to obesity or being overweight, cardiovascular diseases, diabetes. According to CDC (Centers for Disease Control and Prevention) poor sleep has been found to contribute to diabetes, cardiovascular diseases, depression and obesity. According to WHO, more than 7 million people die each year due to tobacco consumption. 4.1 million people die each year due to excessive use of sodium in the diet. Alcohol intake leads to 1.65 million deaths. Lack of physical activity has been claiming 1.6 million lives annually.

## **Non-modifiable risk factors:** Riskfactors that cannot be changed by application of an intervention are age, race, gender and genetics.

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

## **Gender:** Men have greater risk of heart disease than women do. Breast cancer are more common among women than men

##  **Race :** African americans are more likely to develop high blood pressure than Europeans. Asian americans historically have had a lower incidence of heart disease than European have had. However a change to eating high fat, low-fiber diet has increased the incidence of heart disease among Asian americans.

##  **Genetics:** genes can determine the chances of developing certain lifestyle diseases.

 **Globally four major lifestyle diseases are of concern**

##  **Cardiovascular diseases (CVDs)**

 CVDs are a group of disorders of the heart and blood vessels. They include coronary heart disease, cerebrovascular disease, peripheral arterial disease. CVDs are the number one cause of death globally which account 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 influences their chances of developing CVDs.

CVDs can be manifested in a number of ways, such as

**Coronary Heart Disease (CHD) or Ischemic Heart Disease (IHD):** Impairment ofheart function due to inadequate flow to heart as compared to its needs, caused by obstructive changes in coronary circulation to heart. CHD is one of the most common heart problems faced today which manifests 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 is responsible for a large number of cases.

**Cerebrovascular disease (strokes and TIA)** : Cerebrovascular disease refers to group of diseases and disorders which affect the blood vessels 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:** Peripheral arterial disease is the narrowing or blockage of the blood vessels that carry blood from heart to the arms and legs. It is a sign of fatty deposits in the walls of arteries (atherosclerosis). Claudication is a common symptom seen in patients with peripheral arterial disease which include muscle pain or leg cramps during exercise but relieve with rest.

**Preventive measures of cardiovascular diseases**

Cardiovascular diseases being the most common lifestyle disease, prevention steps can begin as early as childhood. Dietary modification is the principal preventive strategy for prevention of CVDs.

WHO recommendations:

* Cholesterol/HDL ratio<3.5
* Reduction of fat intake to <20-30% of total energy intake
* Consumption of saturated fats <7% of total energy intake
* Increase complex carbohydrate intake
* Eat more fruits and vegetables
* Reduction of salt intake to < 5gms per day
* Avoidance of smoking and alcohol consumption
* Regular exercise

## **Diabetes** Diabetes is a chronic metabolic disease characterized by elevated levels of blood glucose, which leads over time 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. There are four types of diabetes: Type 1 (juvenile diabetes), Type 2 (adult onset diabetes), Gestational Diabetes and Pre-Diabetes (Impaired Glucose Tolerance). Of these Type 2 is the most common in the world and is caused by obesity and inactive lifestyle.

**WHO Diagnostic Criteria for Diabetes:**

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

Or

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

**Prevention of diabetes**

Type 2 diabetes stems from a combination 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. An important part of prevention of diabetes is adopting a healthy lifestyle by keeping a healthy weight through a healthy diet and physical activity plan. 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 hypoglycemic drugs and insulin injections. Avoidance of tobacco, alcohol consumption are also important to lead a healthy life.

## **Cancer**  Cancer is a disease in which cells grow uncontrollably and invade other parts 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 (Human papilloma virus), radioactivity and ultraviolet radiations, tobacco, asbestos. Cancer 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 cervical cancer, lung cancer, breast cancer, prostate cancer, colorectal cancer.

## **Prevention of cancer** All of us are exposed to some cancer causing agents or substances called carcinogens in our daily lives However, many cancers are caused by carcinogens that we can avoid. Some of the measures that can prevent cancer are:

1. Do not smoke: 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 airways and other structures of lungs. The most common CRDs are chronic obstructive pulmonary disease (COPD) and asthma. Most recent evidence from 2017 reports showed 3.2 million deaths due to COPD and 495,000 deaths due to 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 COPD. Genetics and age are the non-modifiable factors associated with CRDs. However CRDs 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. An important way of controlling lifestyle diseases is by controlling the modifiable risk factors associated with it. 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. More public awareness, health promotion and preventive health measures are proven effective strategies in reducing the disease burden. Management of lifestyle disease includes proper diagnosis, screening and treatment. Regular reporting, global monitoring are important to ensure the interventions meet the set targets for control and prevention of lifestyle diseases.

# CONCLUSION

 Lifestyle diseases are important health concern worldwide. A sedentary lifestyle lead us to do unhealthy things which could harm our health. Despite urbanization, many are unaware of the impacts of unhealthy lifestyles to our health and the risk of developing different NCDs. 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 fiber diet, and learning to cope with stress, to reduce the risk of various lifestyle diseases. These NCDs like CVDs, diabetes, cancer, obesity, CRDs are preventable by adopting healthy habits and behavioral choices. Furthermore, effective public health measures are the need of the hour to promote and improve health around the world. There is no better time than now to start living healthy!

##### REFERENCES

1. Tabish SA. Lifestyle diseases: consequences, characteristics, causes and control. J Cardiol Curr Res. 2017 Jul 9;9(3):00326.
2. WHO. (2011). Global status report on Noncommunicable diseases 2010. (Retrieved from http://www.who.int/nmh/publications/ncd report full en.pdf on 3/15/2021)
3. WHO / WEF. (2008). Preventing noncommunicable diseases in the workplace through diet and physical activity: World Health Organisation / World Economic Forum report of a joint event. World Health Organization. https://apps.who.int/iris/handle/1066 5/43825.
4. Wong ND (2015) Epidemiology and prevention of cardiovascular disease. In Detels, R., Gulliford, M, et al. Oxford Textbook of Global Public Health (6 ed.). Oxford University Press.