

LIFESTYLE DISEASES: AN EMERGING HEALTH BURDEN

Abstract

Lifestyle diseases are certain diseases caused by day to day habits of human beings i.e with individual's lifestyle mainly unhealthy behaviour and other factors. A sedentary lifestyle or physical inactivity lead us to do unhealthy health. Exposure to controllable lifestyle behaviours like smoking, alcohol intake, unhealthy diet and inactivity for a long time leads to causation of many chronic non-communicable diseases (NCDs) like cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, obesity, depression etc. The emergence of these chronic diseases become major threat leading to increase morbidity, mortality and a threat developmental aspects of nation 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

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I. INTRODUCTION

Lifestyle diseases are certain disease conditions that results from daily habits and practices of an individual. Habits that to decrease in physical activity and a sedentary lifestyle can cause a number of healths relate problems ultimately leading to chronic diseases that are non-communicable, which runs in long course and can have near life threatening complications.. Long term exposure to modifiable lifestyle behaviours and controllable factors like - smoking/ tobacco, alcohol intake, unhealthy diet , physical inactivity, exposure to pollutants, stress, use of artificial ingredients in food, increase sugar and calorie intake leads to the development of chronic diseases like cardiovascular disease, diabetes, obesity, metabolic syndrome, chronic obstructive pulmonary disease, depression and cancer. Non-communicable diseases (NCDs) account for around 40 million people death every year. Such diseases can lead to loss of independence, chronic disability, or death and a great economic burden on health system. The period of development of these diseases are generally long from the time of onset till its detection lasting upto several decades. Lifestyle diseases posses a major health issue worldwide.

II. CAUSES OF LIFESTYLE DISEASES

- 1. Modifiable/ Controllable Behavioral 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 due to increase technology, use of automobiles, increase intake of sugar and calorie, over eating, excessive consumption of fat, disturbed sleep increases the risk of NCDs. Sedentary life, stress related to work and environment is now considered as one of the most important risk factor for various lifestyle diseases. Poor sleep is found to contribute to increasing incidence of modern non communicable diseases. The incidence is more in urban area compared to rural area.
- 2. Non-Modifiable / Non Controllable Risk Factors:** They are certain risk factors that cannot be changed by any intervention. They are
 - **Age:** As we age, the development of lifestyle diseases increases
 - **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/ Ethnicity:** African Americans have more chance to develop hypertension compared to their Europeans counterpart but Asian Americans had a lower incidence of heart disease than European..
 - **Genetics:** The chances of developing certain diseases run in family.

III. MAJOR LIFESTYLE DISEASES ARE OF CONCERN GLOBALLY ARE

1. Cardiovascular Diseases (CVDs): CVDs are certain disorders resulting from damage to the heart and blood vessels. They include hypertension, atherosclerosis, heart attack, heart failure, stroke, peripheral arterial disease etc. They are the leading cause of death globally. 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 reduce 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:
 - Angina pectoris/ heart attack
 - Myocardial infarction
 - 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 affecting the brain function due to obstruction in the blood supply to the brain. The most common presentation is an ischemic stroke or mini-stroke or there may be haemorrhage. Hypertension is the most important contributing modifiable risk factor for stroke. Other risk factors are old age, increase blood pressure, diabetes, tobacco smoking etc.
- **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 atherosclerosis
- **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:

- Reduce intake of fat especially consumption of saturated fats
- Eating more fruits, vegetables and whole grains
- Reduction of salt intake to < 5gms per day
- Avoidance of smoking, alcohol, stress and medication
- Increase in daily activity and Regular exercise
- Maintenance of body weight at recommended level

2. Diabetes: Diabetes is a chronic metabolic disorder where there is 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 various parts and organs of the body causing life threatening complications like stroke, blindness, kidney failure, heart failure, sexual dysfunction etc. About 1.5 million deaths are directly attributed to diabetes complications each year. Among the different types of Diabetes, Type 2 is the most common in the world and is caused mainly by obesity and sedentary lifestyle.

- **Diagnostic Criteria for Diabetes**

- Fasting plasma glucose ≥ 126 mg/dL (7.0mmol/L), Or
- OGTT 2-hour plasma glucose ≥ 200 mg/dL (11.1mmol/L), or
- HbA1C $\geq 6.5\%$ (48 mmol/mol).or
- In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥ 200 mg/dL

- **Prevention of Diabetes:** Adopting a healthy lifestyle by keeping a healthy weight through a healthy diet and increasing physical activity is very important in prevention of diabetes . Avoiding stress and smoking, decreasing the intake of junk foods, oily food, increase in exercise can decrease the incidence of diabetes to some extent. WHO recommends adults to 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, like brisk walking, cycling, gardening with moderate effort, along with the medicines like oral hypoglycaemic drugs and insulin injections.

3. Cancer: It is a disease where there is uncontrolled proliferation of cell that invade other normal tissue of the body. Uncontrolled cell growth may result from damage to certain genes that regulate cell division. These genetic mutation can be caused by a variety of ways like exposure to viruses like HPV, radioactivity and ultraviolet radiations and chemicals like 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, physical inactivity 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:
- **Avoidance of Smoking:** Tobacco kills more than 8 million people each year. In India, tobacco-related cancers accounted for 27% of the country's cancer burden in 2020. Tobacco use can cause cancers of mouth, throat, esophagus, lungs, pancreas and colon.
- **Healthy Diet Plan:** People who take more of saturated fats are more likely to develop cancer of Gastro- intestinal tract. 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.

- **Limit Exposure To UV Radiation:** Prolonged and excessive exposure to damaging UV radiations is 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 areas of the body. Applying sunscreen on exposed areas and clothing, even on cloudy days is recommended.
 - **Maintain A Healthy Weight:** Regular physical activity are associated with 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 have high physical activity.
- 4. Chronic respiratory diseases (CRDs):** Chronic respiratory diseases affect the lungs and the airway tract by decreasing the airflow for a long time . 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 depletion, occupational exposure to particulate matter, gases, fumes, as well as second-hand smoke, play an important role in the development of COPD. Genetics and age are also important contributing factors. It can be prevented by avoidance of smoking, taking nutritional supplements, having a healthy diet, breathing exercise, Exposure to fumes and dust is to be avoided and quality of both indoor and outdoor air should be improved.
- 5. Depression:** It is the state of low mood, excessive feeling of sorrow, feeling of loneliness and aversion to activity. It affects thought behaviour, feelings and sense of well being. It can be prevented by cutting down junk food, avoiding food high in refined sugar and saturated fats, socializing, increase in physical activity, Yoga, meditation and proper sleep. Exercise increases the production of natural antidepressant and reduces stress, improve mood, boosts self esteem and improves sleep. Medication, meditation, breathing exerciser helps to relieve stress and anxiety

IV. CONTROL AND PREVENTION OF LIFESTYLE DISEASES

Lifestyle diseases have emerged as an important health issue globally. 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 by increasing awareness through campaign, providing education and information and creating supportive environment that encourage healthy behaviours is considered the need of the hour. Strengthening health system by improving 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.

V. CONCLUSION

Lifestyle diseases are an emerging health concern worldwide. A sedentary lifestyle leads us to do unhealthy things which could harm our health. It is high time to make the

public aware about the benefits of adopting healthy lifestyle such as regular physical activity, cessation of tobacco consumption, controlling body weight, eating fruits, vegetables and high fibers diet, and reducing stress to reduce the incidence 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 worldwide. There is no better time than now to start living healthy!

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