

Lifestyle Diseases: The Link between Modern Lifestyle and Threat to Public Health

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DOI: [10.36348/sjimps.2021.v07i04.003](https://doi.org/10.36348/sjimps.2021.v07i04.003)

| Received: 03.03.2021 | Accepted: 02.04.2021 | Published: 06.04.2021

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Abstract

Globalization and economic progress have been accompanied with an increase in the incidence of lifestyle diseases worldwide. Lifestyle Diseases are a major public health problem globally. According to World Health Organization (WHO), nearly 71% of all deaths globally were attributed to Lifestyle Diseases, a subset of non-communicable diseases (NCDs). A lifestyle disease is linked to the way a person lives. Lifestyle diseases are ailments that are primarily based on the day to day habits of people. Habits that detract people from activity and push them towards a sedentary routine can cause several health issues that lead to chronic non-communicable diseases with life threatening consequences. A primary intent of this article is to educate readers about the risk factors associated with Lifestyle diseases as well as to encourage them to follow a healthy lifestyle in order to reduce the chances of developing a Lifestyle related disease later in their lives.

Keywords: Lifestyle diseases, Non-communicable diseases, chronic diseases, Globalization.

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INTRODUCTION

A hundred years ago, the main cause of death in the United States was communicable or infectious diseases. In 1900, the top three causes of death in the United States were Pneumonia/ Influenza, Tuberculosis and Diarrhea / Enteritis. Communicable diseases accounted for about 60 percent of all deaths. Since the 1940s, most deaths in the United States have resulted from heart disease, cancer, and other degenerative diseases [1].

Today, we are better protected from infections because of good hygiene, improved living conditions, and medical advances. Although Communicable diseases are still a serious health problem, but the top causes of death in the United States today are Non-Communicable Diseases (NCDs), commonly known as Lifestyle Diseases. Lifestyle diseases have their onset later in an individual's life; they appear to increase in frequency as countries become more industrialized and people live longer [2].

Lifestyle Diseases or NCDs are a major public health problem globally. In 2018, the World Health Organization (WHO) estimated that 71% of all deaths

globally (41 million) were attributed to NCDs. Each year, nearly 15 million people die from a NCD and are usually between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in either low-income or middle income countries. Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9 million), and diabetes (1.6 million). These 4 groups of diseases account for over 80% of all premature NCD deaths [3]. Some of the factors like tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets play a vital role in increasing the risk of either developing or dying from a NCD. NCDs such as cardiovascular diseases (CVD), stroke, diabetes and certain forms of cancer are heavily linked to lifestyle choices, and hence, are commonly known as lifestyle diseases. The key components of the response to NCDs include early detection, screening and treatment of NCDs, as well as palliative care [3].

Our lifestyle plays a very significant role in determining the risk of developing a lifestyle or chronic disease. However, it is very much possible to reduce one's risk of developing a lifestyle disease by considering healthy habits and good behavioral choices.

Lifestyle Diseases

A lifestyle disease is a disease linked to the way a person is living. Lifestyle diseases is an umbrella term that refers to the ailments primarily caused by the daily habits or unhealthy behaviors of people. Lifestyle diseases are associated to four modifiable lifestyle behaviors including smoking, unhealthy diet, physical inactivity and alcohol consumption that result in the development of non-communicable diseases (NCDs). Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, behavioral, and environmental factors. The main types of NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes [4].

NCDs such as cardiovascular diseases (CVD), stroke, diabetes and certain forms of cancer are heavily linked to lifestyle choices, and hence, are often known as lifestyle diseases. Since lifestyle diseases result in chronic diseases or non-communicable diseases (NCDs). These terms are often used interchangeably. NCDs disproportionately affect people in low- and middle-income countries where more than three quarters of global NCD deaths (32million) occur [3].

What causes Lifestyle Diseases?

Lifestyle diseases are caused partly by a person's lifestyle, which includes habits and behaviors. Lifestyle diseases are so called because a person's lifestyle (habits, behaviors, and practices) largely determine whether the person develops a lifestyle disease. Lifestyle diseases include cardiovascular disease (CVD), chronic respiratory disease (CRD), cancer, and diabetes. Personal habits, behaviors, and practices, however, are not the only factors that determine whether a person develops a lifestyle disease. Other factors that we cannot control, such as age, gender, and genes, also contribute to a person's chances of developing a lifestyle disease [5]. It is important to know the factors that contribute to lifestyle diseases, because behaviors that lead to lifestyle diseases later in life can start when we are very young.

Risk Factors for Lifestyle Diseases

A risk factor is anything that increases the likelihood of injury, disease, or other health problems. Several risk factors, some controllable and some uncontrollable, contribute to a person's chances of developing a lifestyle disease. Diet, physical activity, smoking, sun exposure, and body weight are controllable risk factors. Age, gender, ethnicity, and genes are uncontrollable factors [6]. People who inherit a tendency for a lifestyle disease can still do a lot to reduce their chances of developing such a disease. Some of the risk factors for lifestyle diseases are beyond our control. However, we can control many risk

factors, such as smoking, physical activity, sun exposure, and diet.

Controllable Risk Factors

Controllable risk factors include habits, behaviors, and practices that we can either modify or change. Taking charge of the risk factors that we can control may greatly decrease our chances of developing a lifestyle disease. For example, controllable risk factors include

- our diet and body weight
- our daily levels of physical activity
- our level of sun exposure
- smoking and alcohol abuse

Thus, a regular exercise, eating a healthy diet, and not smoking will help to reduce the risk of developing lifestyle diseases later in life [7]. However, there are many risk factors that we have little or no control over, thus, it is imperative to start healthy habits that we can control early in the life.

Uncontrollable Risk Factors

Several risk factors that contribute to our chances of developing a lifestyle disease are out of our control. However, it is important to understand what these factors are and how they affect our health. Uncontrollable risk factors include:

- Age: As we age, our body begins to change. As a result of aging, the body has a harder time protecting itself. Therefore, the chances of developing a lifestyle disease increase as we age.
- Gender: Certain diseases are more common among members of one gender. For example, men have a greater risk of heart disease than women do, especially earlier in life. Women have a greater risk of breast cancer than men do.
- Ethnicity: The ethnicity can also influence one's chances of developing a lifestyle disease. For example, African Americans are more likely to develop high blood pressure than Europeans. Mexican Americans have a higher risk of developing diabetes than the individuals of European descent. Asian Americans historically have had a lower incidence of heart disease than people of European decent have had. However, Asian Americans have recently begun to develop heart disease in greater numbers. It is believed that a change to eating a high-fat, low-fiber diet is the main reason for the increase.
- Heredity: In the same way that genes determine your natural skin color, genes can also determine your chances of developing certain lifestyle diseases. For example, in some families' heredity may increase the chances that a family member will develop cancer. However, it is important to remember that just because you have an uncontrollable risk factor for a lifestyle disease, you will not necessarily develop that disease. For

example, if you have a hereditary tendency to develop heart disease, you can make healthy food choices and exercise regularly and you may never develop heart disease. However, you may need to work harder to prevent heart problems than other people do [6].

Lifestyle Diseases versus Healthy Lifestyle Habits

Lifestyle diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States. When examining lifestyle diseases and their potential connection to the environment, it is important to consider lifestyle risk factors that could play a role in their development. There are four personal behaviors that can affect Lifestyle diseases namely poor nutrition, excessive alcohol use, tobacco use, and lack of physical activity [6]. The combination of four healthy lifestyle factors maintaining a healthy weight, exercising regularly, following a healthy diet, and not smoking seem to be associated with as much as an 80 per cent reduction in the risk of developing the most common and deadly chronic diseases [16]. This reinforces the current public health recommendations for the observance of healthy lifestyle habits, and because the roots of these habits often originate during the formative stages of life, it is especially important to start early in teaching important lessons concerning healthy living [5].

FOUR MAJOR LIFESTYLE DISEASES

1. Cardiovascular Diseases (CVDs)

The diseases and disorders that result from progressive damage to the heart and blood vessels are called cardiovascular diseases (CVDs). CVDs are the number one cause of death globally and account for more than 17 million deaths per year. The number is estimated to rise by 2030 to more than 23 million a year [8]. A person's lifestyle influences their chances of developing cardiovascular diseases such as strokes, high blood pressure, heart attacks, and atherosclerosis. Different methods, such as EKG, ultrasound, and angiography, are used by the doctors to diagnose cardiovascular diseases. There are many treatment options for cardiovascular diseases including a healthy diet, exercise, medicine, and surgery. Eating sensibly, avoiding cigarettes, exercising, and having the blood pressure and cholesterol checked regularly can help prevent cardiovascular diseases [9].

Lifestyle and Cardiovascular Disease

Why do some people die from cardiovascular disease while others never have any problems? Genetic differences between people are one reason. But whether you develop a cardiovascular disease and how serious it becomes also depend on how you live. For example, smoking, being overweight, having high blood pressure, having high blood cholesterol, or having diabetes greatly increase your risk of developing a cardiovascular disease [9].

Types of Cardiovascular Diseases

About 60 million Americans have some form of cardiovascular disease. Heart attacks, strokes, high blood pressure, and atherosclerosis are main kinds of cardiovascular diseases that kill nearly 1 million Americans every year. This number is twice the number of people who die from cancer.

Preventing Cardiovascular Diseases

The doctors and surgeons who treat CVD would prefer that you protect your heart and blood vessels before you get sick. Because CVD can begin as early as childhood, it is important to take steps now, such as doing the healthy activity to ensure a healthy future. The following advice can help you lower your risk of CVD.

1. Trim the fat and hold the salt: Limit the consumption of saturated fats, cholesterol, and salt. Instead, eat more fruits and vegetables, lean meats, and plenty of products made from whole grains [13].
2. Keep your weight near recommended levels: Being overweight increases the risk of CVDs. Try to keep your weight near that recommended for your height and build [7].
3. Don't smoke: Smoking speeds up atherosclerosis and increases your risk of having a stroke or heart attack. If you don't smoke, don't start. If you do smoke, the sooner you quit the better [14].
4. Get moving: Regular exercise benefits your cardiovascular system in many ways. It helps you feel less stressed by daily life and is also a good way to keep your weight under control [12].
5. Watch the Blood Pressure & Cholesterol: Have your blood pressure and cholesterol checked regularly. If you have a family history of CVD, you should get checked now. It may be wise to start a program to control your cholesterol, even this early [14].
6. Relax: Stress, feelings of aggression, hostility, and anger have been shown to increase the risk of CVD. The increase in risk may be due to the physical effects of stress, such as raised blood pressure, or due to smoking, drinking, or poor eating behaviors people sometimes use to deal with stress [7].

CVD: A Global Epidemic

As stated earlier, CVD is the number one cause for deaths globally and the number of people dying from it each year is constantly rising. It is estimated that by 2030, CVD will be responsible for more deaths in low income countries than infectious diseases, maternal and perinatal conditions, and nutritional disorders combined [8].

2. Cancer

Cancer is a disease caused by uncontrolled cell growth. More than 1 million people in the United States are diagnosed with cancer every year. Cancer is the

second leading cause of death, after CVD. Cancer affects different parts of the body and is characterized by a rapid creation of abnormal cells in that part and can invade other parts of the body as well. More than 7 million people die of cancer each year globally and 30% of those diseases are attributed to lifestyle choices [10].

Cancer occurs when cells divide uncontrollably. Certain 'damaged' genes can make a person more likely to develop cancer. Exposure to viruses, radioactivity, ultraviolet radiation, and tobacco can damage genes. There are many types of cancer. Each type has its own characteristics. Early detection and treatment of cancer can increase a person's chances of survival. Not smoking, protecting your skin from the sun, following a balanced diet, staying active, and getting regular medical checkups help reduce your chances of developing cancer.

What Causes Cancer?

Uncontrolled cell growth comes from damage to the genes that regulate the making of new cells. Genes that regulate cell division can become damaged in a variety of ways. A person can inherit damaged or mutated, genes from his or her parents. These genes make the person more likely to develop cancer than someone without those genes is. Cancer causing agents or substances known as carcinogens can also be responsible for damaging genes. Some examples of carcinogens include:

1. Certain viruses, such as human papilloma virus (HPV)
2. Radioactivity and ultraviolet (UV) radiation, an invisible type of energy from the sun (people are exposed to ultraviolet radiation while outside or in a tanning bed)
3. Chemicals found in tobacco smoke (for example, arsenic, benzene, and formaldehyde)
4. Asbestos (a material used to make fireproof materials, electrical insulation, and other building supplies) [11].

All of us are exposed to some carcinogens in our daily lives. They may be in our food, water, air, or environment. However, many cancers are caused by carcinogens that we can avoid.

Preventing Cancer

Taking charge of these five controllable risk factors can greatly reduce the risk of getting cancer.

1. Do not Smoke: Tobacco use is responsible for about one-third of the cancer deaths in the United States. People who use tobacco are prone to cancers of the mouth, throat, esophagus, pancreas, and colon. Despite what we might hear, there is no safe form of tobacco [7].
2. Safeguard your skin: Limit your exposure to the damaging UV radiation that causes skin cancer.

One can do so by protecting exposed areas of skin with sunscreen and clothing, even on cloudy days. Avoid sunbathe and do not use tanning beds or sunlamps.

3. Eat more vegetables and cut the fat: No diet can guarantee that one won't get cancer. However, people who eat large amounts of saturated fat are more likely to get cancer of the colon and rectum. Studies suggest that people who eat fruits, vegetables, and foods high in fiber have a lower risk of some cancers [13].
4. Stay active and maintain a healthy weight: Studies have shown that regular physical activity helps protect against some types of cancers. Exercising also helps prevent obesity, another risk factor for developing cancer. Teens should get at least 60 minutes of activity daily [7].
5. Get regular medical checkups: Your doctor can answer questions you may have about cancer risk factors, preventions, and treatments. He or she will also be able to advise you on self-examinations and when to begin regular cancer screening tests. When we make positive choices regarding these controllable risk factors, we can work toward a healthy future for ourselves [12].

3. Diabetes

Diabetes is a metabolism disorder that affects the way the body used food for energy and physical growth. Diabetes occurs when cells are unable to obtain glucose from the blood such that high blood-glucose levels result. Estimates indicate that 16 million people in the United States have diabetes. Unfortunately, about 5 million people who have diabetes do not know that they have it and are not being treated for it [15].

Types of Diabetes

There are 4 types of diabetes: Type 1, Type 2, Gestational and Pre-Diabetes (Impaired Glucose Tolerance). Type 1 diabetes is believed to be caused by an autoimmune response. Type- 2 is the most common diabetes in the world and is caused by modifiable behavioral risk factors.

Preventing Diabetes

As in so many diseases, genes play a role in diabetes. For example, people who have diabetes in their family are at a greater risk of developing diabetes. People in certain ethnic groups, particularly African Americans, Hispanics, and Native Americans, are also at a greater risk for developing certain forms of diabetes. Although there is no cure for diabetes, lifestyle changes and medicines can often keep the disorder under control. The best way to prevent diabetes is to take control of the risk factors that you can change, such as diet, exercise, and weight. There is currently no way to prevent type 1 diabetes. But exercise, a healthy diet, and insulin injections as needed can allow a person to lead a healthy life [15]. There are several things a

person can do to reduce his or her risk of developing type-2 diabetes including:

- Maintain a healthy weight: Exercise regularly and eat a healthy diet. Physical activity and a healthy diet can greatly reduce the risk of developing type 2 diabetes in people who are overweight [7].
- Avoid tobacco products.
- Reduce the amount of stress in your life.

4. Chronic Respiratory Diseases (CRDs)

Some of the most under-diagnosed conditions, chronic respiratory diseases (CRD) are a potent cause of death globally with 90% of the deaths taking place in low-income countries. Chronic obstructive pulmonary disease (COPD) and asthma are the two main types of CRDs [8]. Genetics and age are the non-modifiable risk factors associated with CRDs [6]. However, we can control the modifiable risk factors linked to CRDs such as tobacco smoke, cigarette smoke, air pollution, dust, chemicals, etc.

Control and Prevention of Lifestyle Diseases

As per the World Health Organization (WHO), lifestyle diseases have become the major contributors to higher morbidity, mortality and at the same time the single biggest obstacle to global development. Furthermore, lifestyle diseases continue to increase in virtually every region of the world especially in middle and low-income countries. An important way of controlling lifestyle diseases is by controlling the risk factors associated with it. In other words, several non-communicable diseases (NCDs) can be prevented by controlling the behavioral or lifestyle habits associated with those diseases [12]. There are several low-cost solutions that can be implemented by the stakeholders to reduce the common modifiable risk factors associated with the lifestyle diseases. Health promotion and preventive health approaches are proven effective strategies in reducing disease burden with lower costs compared to the cost of NCD treatment. However, NCD prevention and control cannot be done with diet control and increased physical activity alone. It requires action at multiple levels with health care providers and governments as leaders, along with stronger health care systems and multi-stakeholder involvement. Quality lifestyle disease intervention needs to be delivered through a primary healthcare approach where early detection and proper treatment are prioritized. Management of lifestyle diseases includes proper diagnosis, screening and treatment of these diseases in addition to providing palliative care for people who require it. To ensure that the interventions meet set targets; regular reporting, global monitoring and accountability are important [6].

CONCLUSION

A convenient modern lifestyle brings along with it a host of health concerns. We live around gadgets and things of convenience all day. A sedentary work culture and urban lifestyle pushes us to do unhealthy things that do more damage than good to our bodies. Unfortunately, there is very little public awareness of the association between health and lifestyle. Many are unaware that a change in lifestyle is an important factor in the emergence of chronic diseases (NCDs) as causes of increased morbidity and mortality. Lifestyle diseases are on the rise worldwide. In this article, we have tried to highlight the link between unhealthy lifestyle and the development of non-communicable diseases (NCDs) or lifestyle diseases. We feel that it is very important to spread the awareness among the public about the benefits of a healthy lifestyle. We urge that the various stakeholders including health professionals, the government, the media, etc. should continue to carry the message to the public that to remain healthy, people need to adopt healthy behaviors.

This article is designed to serve as a guide to healthy lifestyle. We tried to explain the factors that lead to lifestyle diseases. We are now aware of the fact that lifestyle diseases are caused partly by daily habits (sedentary lifestyle, lack of physical activity, etc.) and partly by unhealthy behaviors (exposure to tobacco smoke or the harmful use of alcohol, drugs, etc.) of the people. These chronic diseases are the outcome of our unhealthy daily habits or behavioral choices and thus, are preventable. It is imperative to identify the causes of lifestyle diseases as the elimination of these causes will help to achieve healing and improved health. Physical activity, cessation of tobacco consumption, eating a high-fiber, low-fat diet, controlling body weight, and learning to cope with stress will help to reduce the risk of various lifestyle diseases including cardiovascular disease, diabetes, cancer, etc. Thus, by making healthy choices, we can reduce our likelihood of getting a chronic disease and improve our quality of life. Let us pledge to make healthy behaviors part of our daily life. We hope this article will encourage our readers to make healthy choices to alleviate the risk of developing a lifestyle disease later in their lives. Furthermore, effective public health measures are urgently needed to promote physical activity and improve health around the world.

Last but not the least, we all is going through a difficult phase of the global pandemic. Covid-19 has severely affected our lives as well as our lifestyle. Whether it is working or learning from our homes, it has greatly reduced our physical activity and pushed us towards a sedentary lifestyle. Stress and depression are some of the resonating effects of this pandemic. It is quite important than ever before to ensure that we are making healthy choices as well as doing enough physical activity during present COVID times. Let's be active, Let's be healthy!

Conflict of Interest: Authors have no conflict of interest.

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