

Correlation b/w Modern lifestyle and Public Health

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Abstract

The rise in the prevalence of lifestyle illnesses around the globe has coincided with the process of globalisation and the advancement of economic development. The worldwide epidemic of lifestyle diseases is a significant threat to public health. Acc. to the WHO, lifestyle illnesses, which are a subgroup of non-communicable diseases, are responsible for almost 71 percent of all fatalities that occur throughout the globe (NCDs). A lifestyle sickness is a condition that is caused by the way a person spends their life. Lifestyle illnesses are conditions that are caused, in large part, by the actions and behaviours that individuals engage in on a regular basis. Multiple health concerns, including chronic non-communicable diseases that may be life-threatening if left untreated, can be caused by sedentary activities. This article aims to enlighten readers on lifestyle-related illness risk factors and urge them to adopt a healthy lifestyle to reduce their chance of developing a lifestyle-related disease later in life.

Keywords: Lifestyle Diseases, Non-Communicable Diseases, Chronic Diseases, Globalization.

Introduction

Infectious and other contagious illnesses were the leading cause of mortality in the US a century ago. In the year 1900, the diseases pneumonia and influenza, “tuberculosis, and diarrhoea and enteritis were the leading causes of mortality in the United States. Approximately sixty percent of all fatalities were attributable to communicable illnesses. Since the 1940s, the majority of fatalities that have occurred in the United States have been the consequence of degenerative illnesses such as cancer, heart disease, and others.

Because to improvements in living circumstances, sanitary practises, and medical technology, we are more protected against illnesses now than we were in the past. Non-Communicable

Illnesses (NCDs), also known as Lifestyle Diseases, are now the leading causes of mortality in the United States, despite the fact that communicable diseases continue to be a major concern in terms of public health. Diseases caused by a person's way of life often don't manifest themselves until much later in a person's life, and their prevalence seems to be growing as societies get more industrialised and people live longer.

Globally, noncommunicable diseases (NCDs), often known as lifestyle diseases, pose a significant threat to public health. According to an estimate made by the World Health Organization (WHO) in 2018, noncommunicable diseases were responsible for 71 percent of all deaths worldwide (41 million). Nearly 15 million individuals pass away every year as a result of a noncommunicable disease (NCD). These victims are often between the ages of 30 and 69 years old. More than 85 percent of these premature fatalities take place in either low-income or middle-income nations. The majority of fatalities caused by NCDs, or 17.9 million people yearly, are attributable to cardiovascular illnesses. This is followed by malignancies (9.0 million), respiratory diseases (3.9 million), and diabetes (1.1 million) (1.6 million). These four categories of illnesses are responsible for more than 80 percent of all premature deaths caused by NCDs. Tobacco use, lack of physical exercise, hazardous use of alcohol, and poor diets are just a few of the variables that contribute significantly to an increased risk of either acquiring an NCD or passing away as a result of one. Since noncommunicable diseases (NCDs) including cardiovascular diseases (CVD), stroke, diabetes, and some kinds of cancer are closely connected to lifestyle choices, the term lifestyle illnesses is widely used to refer to these conditions. Early identification, screening, and treatment of noncommunicable diseases, in addition to palliative care, are among the most important aspects of the response to NCDs.

The way that we live our lives is one of the most important factors that determines whether or not we will have a lifestyle illness or a chronic condition. However, by cultivating healthy routines and making wise decisions about one's conduct, one may significantly cut down on the likelihood of having an illness that is linked to their way of life.

Lifestyle Diseases

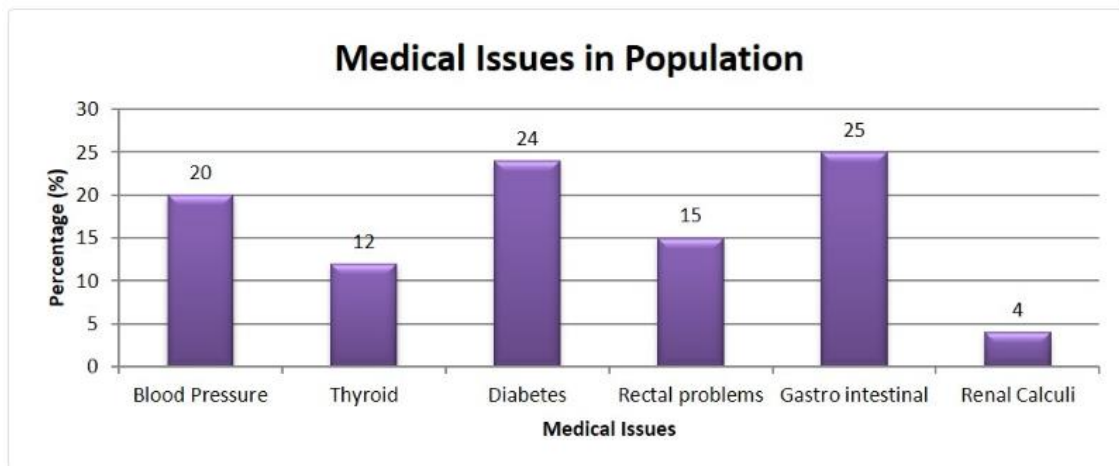
A sickness that is connected to the way a person is living is referred to as a lifestyle disease. The phrase lifestyle illnesses is an umbrella word that refers to the disorders that are mostly caused by the people's day-to-day routines or bad actions. Tobacco use, poor dietary choices, lack of physical activity, and alcohol consumption are the four modifiable lifestyle behaviours that are linked to the development of lifestyle-related illnesses, also known as non-

communicable diseases. Smoking is also a risk factor for developing lifestyle-related diseases (NCDs). Chronic illnesses, which are often referred to as non-communicable diseases (NCDs), have a propensity to last for an extended period of time and are caused by a confluence of variables that include genetics, physiology, behaviour, and the environment. Diabetes, cardiovascular illnesses, chronic respiratory disorders (such as chronic obstructive pulmonary disease and asthma), and malignancies are the most common forms of noncommunicable diseases (NCDs).

NCDs include cardiovascular diseases (CVD), stroke, diabetes, and some kinds of cancer are strongly connected to lifestyle choices; as a result, these conditions are often referred to as lifestyle illnesses. Because disorders associated with lifestyle choices lead to chronic diseases or non-communicable diseases (NCDs). These two words are often interchanged with one another. People in low- and middle-income countries are disproportionately affected by noncommunicable diseases (NCDs), which account for more than three quarters of all NCD deaths worldwide (32 million).

Lifestyle Disease Status in Population	Percent
Healthy Person	17.0 \pm 0.672
Suffering from Lifestyle Diseases	54.6 \pm 0.672
Prone to Lifestyle Diseases	29.4 \pm 0.672

Our study results show that, 54.6% \pm 0.672 of the population is suffering from medical issues. The most common medical issue in population is gastrointestinal in 125 (25% \pm 0.0318) subjects, followed by diabetes in 120 (24% \pm 0.0174) subjects, hypertension in 100 (20% \pm 0.017) subjects, rectal problems in 75 (15% \pm 0.025) subjects, thyroid in 60 (12% \pm 0.016) subjects, renal calculi in 20 (4% \pm 0.013) subjects. Further, many other medical issues are also seen in the population with medical history i.e. in 268 subjects such as arthritis, cancer, high cholesterol, etc. in very less number



Source: Singh K RB, Fernandes M, Sarkar T, Sridevi P (2019) Assessment and Analysis of Lifestyle Disease in Central India. J Infect Non Infect Dis 4: 027

Finally, in the population only $17\% \pm 0.672$ are healthy, $53.6\% \pm 0.672$ are suffering from lifestyle diseases, and $29.4\% \pm 0.672$ are prone to lifestyle diseases based on the comparison of nutritional habits and physical limitations

What causes Lifestyle Diseases?

A person's lifestyle, which includes their habits and activities, may be a contributing factor in the development of certain illnesses. Lifestyle illnesses are so named because a person's habits, actions, and practises mainly affect whether or not that person will acquire a lifestyle disease. This is why lifestyle diseases are sometimes referred to as lifestyle diseases.

Cancer, diabetes, cardiovascular disease (also known as CVD), and chronic respiratory disease (also known as CRD) are all examples of lifestyle illnesses. However, a person's routines, behaviours, and practises outside the home are not the only elements that go into determining whether or not they may acquire a lifestyle-related illness". Other aspects of a person's life, such as their age, gender, and genetics, also influence the likelihood that they may acquire a lifestyle-related illness at some point in their lives. Because the behaviours that might lead to lifestyle illnesses later in life can start as early as when we are very young, it is crucial to have a good understanding of the elements that contribute to lifestyle diseases.

Risk Factors for Lifestyle Diseases

Anything that raises the probability of experiencing an illness, injury, or other negative health outcome is referred to as a risk factor. The likelihood of an individual getting a lifestyle-related illness is influenced by a number of risk factors, some of which can be controlled while others cannot be. Controllable risk factors include one's diet, level of physical activity, smoking

habits, amount of time spent in the sun, and overall body weight. Uncontrollable elements include things like age, gender, race, and genetics. Even those who have a family history of a lifestyle illness still have a lot of control over their health and can take steps to lower their risk of having that disease. There are certain lifestyle illness risk factors that are beyond of our ability to manage. However, there are a number of risk factors that are beyond our control, including smoking, sun exposure, physical activity, and food.

Controllable Risk Factors

- Habits, behaviours, and practises that are within our power to either alter or eradicate are examples of controllable risk factors. If we take responsibility for the risk factors that are within our sphere of influence, we may be able to significantly reduce the likelihood of acquiring a lifestyle-related illness. “Diet and weight are two examples of risk variables that are within our direct control as individuals.
- the amount of sun exposure we get each day as well as the amount of daily exercise we do
- Abuse of tobacco and alcoholic beverages

Thus, a regular exercise, eating a healthy diet, and not smoking will help to reduce the risk of developing lifestyle diseases later in life. 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

A number of the risk factors that contribute to our odds of acquiring a lifestyle-related illness are beyond our ability to manage. “Having said that, it is essential to have an understanding of what these elements are and how they influence our health. The following are examples of factors that cannot be avoided:

- Age: As we become older, our bodies start to go through a variety of changes. As we become older, our bodies become less capable of defending ourselves against potential threats. Consequently, as we become older, our risk of having an illness related to our way of life goes up.
- The members of one gender are more likely to be affected by certain illnesses than the other. For instance, males have a higher chance of developing cardiovascular disease than women

do, particularly in their younger years. Breast cancer is more likely to occur in females than it is in males.

- **Ethnicity:** A person's heritage is another factor that might affect their risk of having a lifestyle-related illness. For instance, the risk of African Americans developing high blood pressure is higher than the risk faced by Europeans. People of European heritage are at a lower risk of having diabetes compared to Mexican Americans, who have a much greater risk. People of European descent have traditionally had a higher prevalence of cardiovascular illness than Asian Americans have had historically. On the other hand, in recent years, an increasing number of Asian Americans have been diagnosed with heart disease. It is widely held that the primary explanation for the rise is a shift toward consuming a diet that is heavy in fat and poor in fibre.

Heredity: In the same way that genes determine your natural skin colour, genes may also determine your risk of getting certain lifestyle-related disorders. For example, your natural skin colour is determined by your genes. For instance, the hereditary makeup of certain families may raise the likelihood that a member of that family may be diagnosed with cancer. However, it is essential to keep in mind that just because you have an uncontrolled risk factor for a lifestyle illness does not always mean that you will end up with that condition. Even if you have a family history of heart disease, you may reduce your risk of developing the condition by adopting a nutritious diet, maintaining a regular exercise routine, and reducing the amount of stress in your life. However, it's possible that you'll have to put in more effort than most individuals do in order to avoid developing cardiac issues.

Lifestyle Diseases versus Healthy Lifestyle Habits

In the United States, the main causes of mortality and disability are preventable illnesses related to lifestyle choices. These include heart disease, cancer, and diabetes. It is essential, while investigating lifestyle illnesses and their possible links to the surrounding environment, to take into account lifestyle risk factors that may have a hand in the progression of these diseases. Poor diet, excessive alcohol use, cigarette use, and a lack of physical exercise are the four personal habits that have been linked to an increased risk of developing lifestyle illnesses. If you combine four healthy lifestyle factors—maintaining a healthy weight, exercising frequently, following a healthy diet, and avoiding smoking—it seems that you may cut your chance of acquiring the most prevalent and fatal chronic illnesses by as much as 80 percent. Because the foundations of these behaviours frequently take hold during the formative stages

of life, it is of the utmost importance to begin early on in the process of teaching important lessons concerning healthy living. This helps to reinforce the current recommendations made by the public health community regarding the maintenance of healthy lifestyle habits.

Four Major Lifestyle Diseases

1. Cardiovascular diseases (CVDs)

The conditions that are collectively referred to as cardiovascular diseases are those that affect the cardiovascular system, which includes the heart and the blood vessels (CVDs). More than 17 million people throughout the world lose their lives each year to cardiovascular diseases (CVDs), making them the leading cause of mortality worldwide. It is anticipated that by the year 2030, the annual total would have increased to more over 23 million. The choices that a person makes in their daily life may increase or decrease their risk of acquiring cardiovascular disorders such as high blood pressure, heart attacks, strokes, and atherosclerosis. The diagnosis of cardiovascular illnesses may be accomplished by a variety of approaches, such as electrocardiogram (ECG), ultrasonography, and angiography. A good diet, regular exercise, the appropriate medication, and even surgery are some of the various therapeutic options available for cardiovascular problems. It is possible to reduce one's risk of developing cardiovascular disease by maintaining a healthy weight, quitting smoking, getting regular exercise, and having one's blood pressure and cholesterol examined on a regular basis.

Lifestyle and Cardiovascular Disease

Why do some individuals succumb to cardiovascular disease while others live their whole lives without ever experiencing any health issues? One of the reasons for this is the genetic variances between individuals. However, the likelihood of developing cardiovascular disease and the illness's severity are both influenced by how a person lives their life. For instance, your chance of acquiring a cardiovascular illness is significantly increased if you smoke cigarettes, are overweight, have high blood pressure, high blood cholesterol, or diabetes.

Types of Cardiovascular Diseases

Some sort of cardiovascular disease affects around 60 million people in the United States. Nearly one million people in the United States lose their lives each year to cardiovascular disorders, the most common of which are heart attacks, strokes, high blood pressure, and

atherosclerosis”. This figure is about twice as high as the number of persons who pass away due to cancer.

Preventing Cardiovascular Diseases

Protecting your heart and blood arteries before you get cardiovascular disease is something that the cardiologists and surgeons who treat the condition would rather you do. Because cardiovascular disease may begin in infancy or even earlier, it is important to adopt preventative measures today, such as participating in the healthy activity, in order to assure a healthy future. You may reduce your risk of cardiovascular disease by following the advice that is provided here.

1. Reduce your intake of saturated fats, cholesterol, and salt; this will help you trim the fat and maintain a healthy weight. Instead, increase the number of fruits and vegetables you eat, as well as the number of lean meats and whole grain items you consume.
2. Strive to maintain a weight that is close to the ideal range; being overweight raises the risk of cardiovascular diseases. Make an effort to maintain a weight that is close to what is ideal for someone of your height and shape.
3. Don't light up; smoking accelerates the process of atherosclerosis and raises the likelihood that you'll have a heart attack or stroke. If you don't already smoke, there's no need to start. If you are a smoker, quitting as soon as possible is in your best interest.
4. Get moving: There are a variety of ways in which your cardiovascular system might benefit from regular exercise. In addition to making, you feel less stressed out by the demands of everyday life, it is an effective strategy to keep your weight under control.
5. Keep an Eye on Your Blood Pressure and Cholesterol You should have your cholesterol and blood pressure examined on a regular basis. You should be evaluated right immediately if there is a history of disease in your family. Even at this early stage, it could be a good idea to get started on a regimen to bring your cholesterol levels down.

CVD: A Global Epidemic

As stated previously, cardiovascular illnesses are the main cause of mortality globally, and the number of deaths each year is growing. By 2030, cardiovascular disease will be the major cause of death in low-income countries, accounting for more deaths than infectious diseases, maternal and perinatal disorders, and dietary issues combined.

Mortality and morbidity

CVD is the leading cause of the 57 million fatalities recorded by the WHO between 2002-17. CVD kills more than cancer and HIV combined (Figure 1). CVD kills 100 times more people annually than conflict.

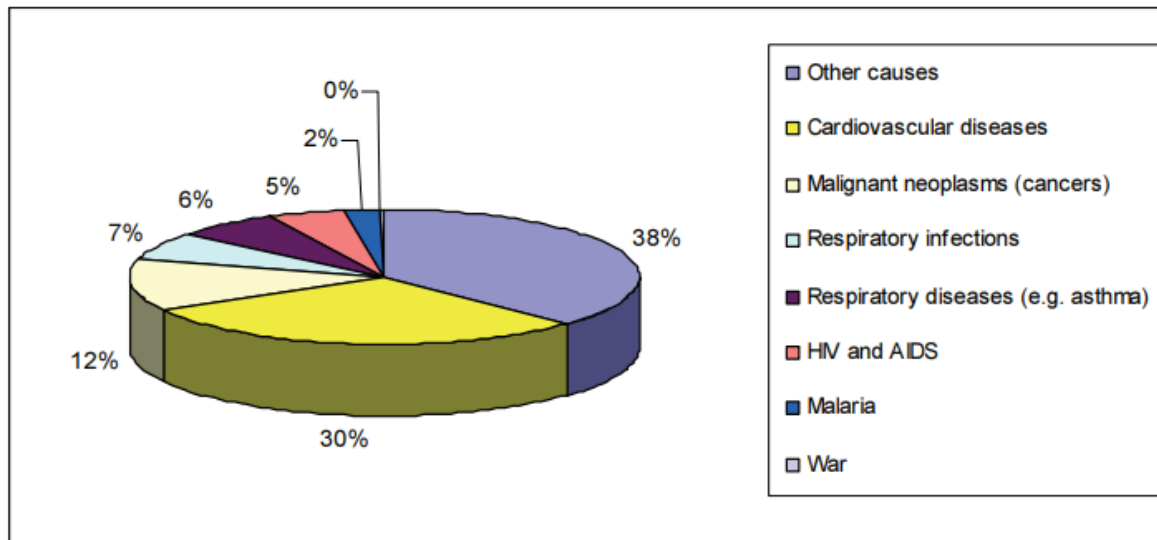
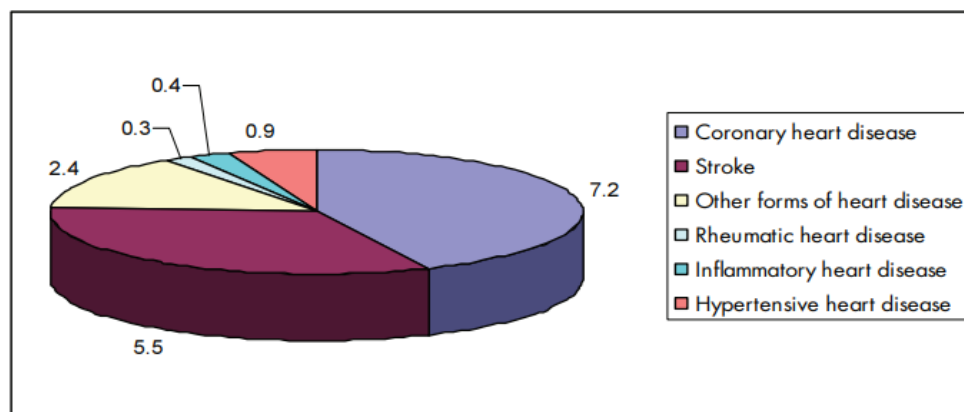


Figure 1. Global mortality in 2002 by major causes (millions)

Source: WHO global mortality figures,

Because cardiovascular disease encompasses a wide range of conditions, it is essential to identify the factors that contribute to both mortality and morbidity. According to the WHO Atlas of Heart Disease and Stroke (2004)¹⁸, the 16.7 million deaths that are caused by cardiovascular disease are broken down as follows: coronary heart disease (CHD), stroke, rheumatic heart disease, inflammatory heart disease, hypertensive heart disease, and other heart diseases (Figure 2).



Global deaths in 2002 due to CVD Source: WHO Atlas of Heart Disease and Stroke

Global morbidity is measured in DALYs. CVD, HIV, and depression are leading contributors to worldwide DALY loss (bi-polar disorders). Figure 3 depicts worldwide DALYs lost owing to disease, including heart disease and stroke. “Heart disease and stroke are the second and third greatest causes of DALYs lost (the highest when combined as CVD) for men, but the third and fourth for women (although again, combined as CVD they would be the largest single cause)

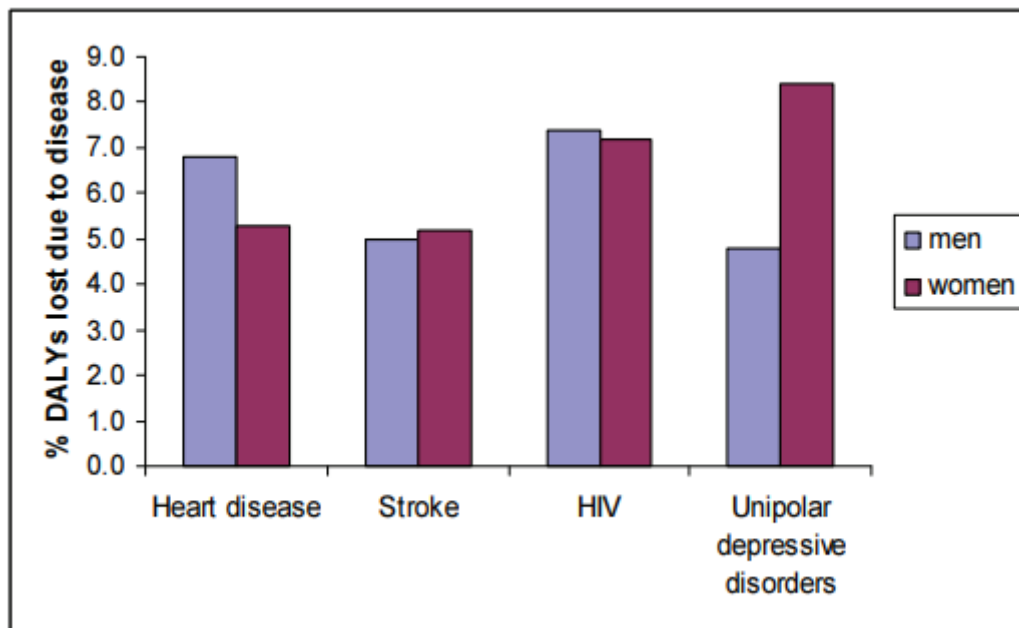


Figure 3. The top four diseases for global DALYs lost in 2002: % of global DALYs lost due to disease

Source: WHO Atlas of Heart Disease and Stroke, p46-47”

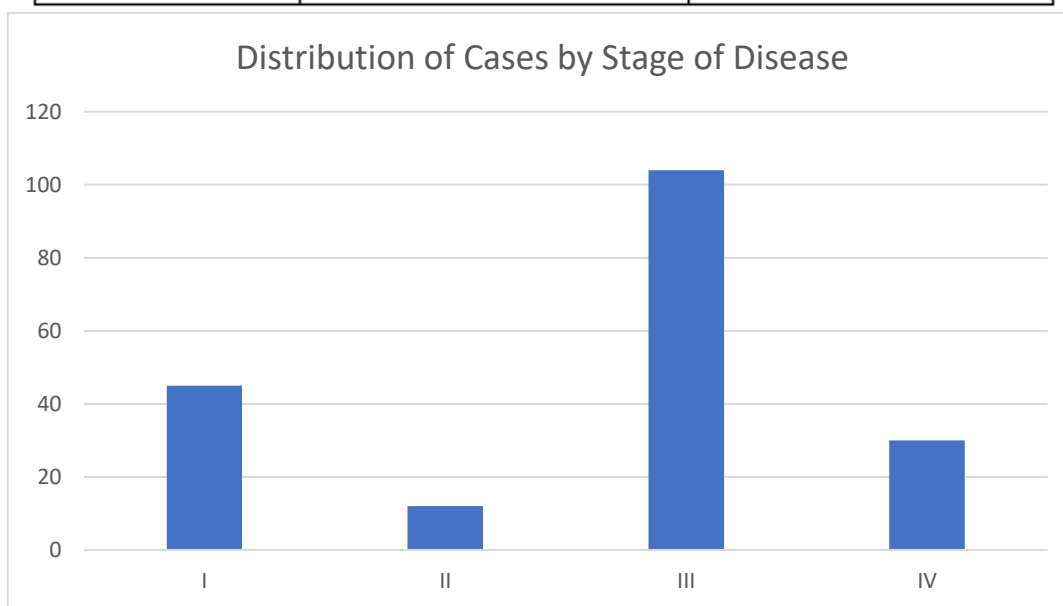
Cancer

Cancer is a disease that is caused by the proliferation of cells out of control. Every year, a diagnosis of cancer is made in the medical records of more than one million persons living in the United States. After cardiovascular disease, the greatest cause of mortality in the United States is cancer. Cancer is a disease that affects many sections of the body and is defined by the fast development of abnormal cells in the affected portion of the body, as well as the ability of those cells to invade other regions of the body. Around the world, more than seven million people lose their lives to cancer each year, and lifestyle decisions are to blame for thirty percent of all cases of cancer.

Cancer is caused by cells dividing in an uncontrolled manner. It is possible for a person to have an increased risk of developing cancer due to certain 'damaged' genes. Genes may be damaged

by a variety of things, including viruses, radioactivity, UV light, and cigarettes. Cancer comes in a wide variety of forms. Every category has its own unique set of traits. Cancer patients have a better chance of surviving if their disease is diagnosed and treated at an earlier stage. It is possible to lower your risk of acquiring cancer by avoiding tobacco products, shielding your skin from the sun, maintaining an active lifestyle, eating a healthy diet, and going to the doctor for regular exams.

Distribution of Cases by Stage of Disease		
Stage	Number	Percent
I	45	20
II	12	5
III	104	58
IV	30	17
Total	180	100



Data Sources: NC, Wingo PA, ML, GL, JS, LA, HW Ory. Oral contraceptives reduce ovarian cancer risk. NEJM. CDC Steroid Hormone and Cancer Study. Oral contraceptives, ovarian cancer risk.

Diabetes

Diabetes is a metabolic illness that alters the manner in which the body utilises the food that it eats to generate energy and to develop physically. Diabetes is caused when cells are unable to

get glucose from the blood, which then leads to elevated amounts of glucose in the blood. According to some estimates, there are 16 million individuals living with diabetes in the United States. Regrettably, around 5 million individuals in the United States who have diabetes are not aware that they have the condition and are not receiving treatment for it.

Types of Diabetes

Diabetes mellitus type 1, type 2, gestational diabetes, and pre-diabetes are the four subtypes of diabetes (Impaired Glucose Tolerance). It is generally accepted that an autoimmune reaction is the root cause of type 1 diabetes. The most prevalent form of diabetes in the world is type 2, which may be prevented or treated by altering certain aspects of one's lifestyle.

Preventing Diabetes

Diabetes may be inherited. Those from diabetes-prone families are at a higher risk. African Americans, Hispanic Americans, and Native Americans are at a higher risk for diabetes. Especially type 2 diabetes. Diabetes can't be cured, but lifestyle changes and medical therapy may help manage it. Change your diet, exercise habit, and weight to minimise your risk of diabetes. No recognised technique prevents type 1 diabetes. Physical exercise, a balanced diet, and insulin shots help a diabetic live a healthy life. Several preventive strategies may reduce a person's risk of type 2 diabetes.

- To maintain a suitable weight, it is important to engage in regular physical activity and to consume a nutritious diet. People who are overweight have a greater chance of having type 2 diabetes, while those who engage in regular physical exercise and maintain a balanced diet have a far lower chance.
- Avoid items containing tobacco.
- Take steps to alleviate the level of stress in your life.

Chronic Respiratory Diseases (CRDs)

Ninety percent of all CRD deaths occur in low-income nations. CRDs remain a primary cause of mortality while being underdiagnosed. COPD and asthma are two prevalent chronic respiratory disorders. Genetics and age are non-modifiable cardiovascular risk factors (CRDs). On the other hand, we can reduce CRD risk factors such tobacco smoking, cigarette smoke, air pollution, dust, chemicals, etc.

Control and Prevention of Lifestyle Diseases

According to the WHO, lifestyle-related diseases are the leading cause of increased morbidity and mortality and the biggest hurdle to global development. In addition, lifestyle-related diseases continue to grow worldwide, especially in middle- and low-income countries. Exercise control over lifestyle-related risk factors to battle lifestyle-related diseases. Changing some parts of one's behaviour or lifestyle may prevent certain non-communicable diseases (NCDs). Stakeholders may use low-cost solutions to minimise modifiable lifestyle disease risk factors. Health promotion and preventive health strategies are more cost-effective than treating noncommunicable illnesses. Dietary restriction and increased physical exercise alone cannot prevent and control NCDs. Health care professionals and governments must lead, enhance health care systems, and include stakeholders. A primary healthcare approach that emphasises early detection and proper medication is needed to effectively treat lifestyle diseases. Lifestyle disease management includes diagnosis, screening, therapy, and palliative care for individuals who need it. Frequent reporting, global monitoring, and accountability are needed to ensure that interventions accomplish their aims.

Conclusion

With all its ease and convenience, modern living poses health hazards. We're surrounded by technology and comforts all day. Sedentary jobs and urban lifestyles encourage us to participate in activities that impair our health. Unfortunately, few people comprehend the link between lifestyle and health. Many individuals are unaware that a change in lifestyle contributes to the spread of “chronic diseases (NCDs), the primary causes of morbidity and mortality. Globally, lifestyle-related diseases are rising. This article focuses on the link between an unhealthy lifestyle and non-communicable diseases (NCDs), also called lifestyle illnesses. We believe that educating the public about the benefits of a healthy lifestyle is crucial.” We urge health professionals, the government, the media, and others to keep promoting healthy practises to the public.

This article offers a guide to healthy living. We clarified lifestyle-related disease factors. Lifestyle illnesses are caused by people's everyday routines (such as being sedentary or not exercising) and bad behaviours (such as being exposed to tobacco smoke or harmfully using alcohol, drugs, or other substances, for example). These chronic diseases are preventable because of our lousy daily habits or behaviour choices. Determining what causes lifestyle ailments is key to recovery and optimal health. “Physical exercise, quitting smoking, eating a

high-fibre, low-fat diet, keeping a healthy weight, and adopting stress coping methods might minimise the risk of lifestyle illnesses including cardiovascular disease, diabetes, and cancer.” By making healthy choices, we may improve our quality of life and reduce our risk of chronic disease. Let's adopt healthier daily behaviours. We hope this piece will motivate our readers to live healthier lifestyles and lower their risk of lifestyle-related disease. Implementing effective public health efforts to promote greater physical activity and improve global health requires quick action.

Last but not least, we're all facing a global pandemic. Covid-19 changed our life and how we live. Working or studying from home has resulted in less physical exercise and a more sedentary lifestyle. This pandemic causes worry and despair. During COVID, it's more important than ever to make healthy choices and exercise regularly. Let's move and care for ourselves.

References

- National Center for Health Statistics (US). Division of Vital Statistics, United States. National Vital Statistics Division, United States. National Office of Vital Statistics, & United States. Bureau of the Census. Vital Statistics Division. (1988). Vital statistics of the United States. United States Bureau of the Census.
- Olshansky, S. J., Olshansky, S. J., & Carnes, B. A. (2002). The quest for immortality: Science at the frontiers of aging. WW Norton & Company.
- WHO. (2017). Non-communicable Diseases. Fact Sheet. (Retrieved from: <http://www.who.int/mediacentre/factsheets/fs355/en/> on: 3/07/2021).
- WHO. (2011). Global status report on non-communicable diseases 2010. (Retrieved from http://www.who.int/nmh/publications/ncd_report_full_en.pdf on 3/15/2021).
- WHO / WEF. (2008). Preventing non-communicable 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/10665/43825>.
- Steyn, K., Fourie, J., & Bradshaw, D. (1992). The impact of chronic diseases of lifestyle and their major risk factors on mortality in South Africa. South African medical journal= Suid-Afrikaanse tydskrif vir geneeskunde, 82(4), 227-231.
- Vaillant, G.E., & Mukamal, K. (2001). Successful aging. Am. J. Psychiatry, 158(6): 839–47.

- Mathers, C.D., & Loncar, D. (2006). Projections of Global Mortality and Burden of Disease from 2002 to 2030. PLoS Medicine, 3(11): 442.
- Fraser, G.E., & Shavlik, D.J. (2001). Ten years of life: Is it a matter of choice? Arch. Intern. Med., 161(13): 1645–1652.
- WHO. (2017). Cancer. Fact Sheet. (Retrieved from: <http://www.who.int/mediacentre/factsheets/fs297/en/> on: 3/05/2021).
- Key, T.J., Allen, N.E., & Spencer, E.A. (2002). The effect of diet on risk of cancer. The Lancet, 360 (9336): 861–868.
- Life expectancy by age, race, and sex, Centers for Disease Control and Prevention, FastStats, 2007, retrieved 2009-06-11.
- Survivorship by age, race, and sex, Centers for Disease Control and Prevention, FastStats, 2007, retrieved 2009-06-11.
- Wong, N.D. (2015). Epidemiology and Prevention of Cardiovascular Disease. In Detels, R., Gulliford, M. Oxford Textbook of Global Public Health (6th ed.). Oxford University Press.
- Boles, A., Kandimalla, R., & Reddy, P.H. (2017). Dynamics of Diabetes and Obesity: Epidemiological Perspective. Biochim Biophys Acta., 1863:1026–1036.
- World Health Organization. (2002). The World Health Report 2002: Reducing risks, promoting healthy life, Geneva.