

## **A COMPREHENSIVE REVIEW OF HEART DISEASE AS A GLOBAL THREAT**

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### **ABSTRACT**

A group of researchers from several countries collaborated on a study examining the epidemiology of coronary heart disease in middle-aged men. Over 12,000 participants aged 40 to 59 from Finland, Greece, Italy, Japan, the Netherlands, the United States, and Yugoslavia were examined and then re-examined five years later.<sup>[1]</sup>

The findings of the study revealed that the incidence of coronary heart disease varied across different countries, with the United States, Finland, and the Netherlands experiencing higher rates compared to other countries. Interestingly, there were no significant differences in the incidence of the disorder between regions within countries, except for rural Finland, where the east had significantly higher rates than the west.

The researchers discovered that factors such as smoking, body fatness, and relative body weight did not seem to explain the population differences in the incidence of the disorder. However, there was some evidence to suggest that the incidence of coronary heart disease was linked to the prevalence of hypertension, serum cholesterol values, and saturated fatty acids in the diet. Surprisingly, there was no clear association between habitual physical activity and the incidence of coronary heart disease. Furthermore, the study did not find any indication that the incidence of the disorder was inversely related to the incidence of any other disease.<sup>[2]</sup>

## INTRODUCTION

Heart disease is a term that encompasses a range of conditions that affect the heart and blood vessels. It is a leading cause of death and disability worldwide and a significant public health concern.

There are many different types of heart diseases, including:

1. **Coronary heart disease:** This occurs when the coronary arteries, which supply blood to the heart muscle, become narrow or blocked, reducing the amount of oxygen-rich blood reaching the heart. This can lead to chest pain (angina), shortness of breath, heart attack, and other symptoms.
2. **Heart valve disease** occurs when one or more of the heart's valves do not work correctly, causing blood to leak back into the heart or be forced in the wrong direction. This can lead to symptoms such as shortness of breath, fatigue, and palpitations.
3. **Arrhythmias:** This occurs when the heart beats too quickly, too slowly, or irregularly, causing symptoms such as dizziness, fainting, and chest pain.
4. **Heart failure:** This occurs when the heart is unable to pump blood effectively, leading to symptoms such as shortness of breath, fatigue, and swelling in the legs and ankles.
5. **Congenital heart disease** refers to heart defects present at birth and can affect the structure and function of the heart.<sup>[3]</sup>

## Causes

The causes of heart disease are complex and can include a combination of genetic, lifestyle, and environmental factors. Risk factors for heart disease include high blood pressure, high cholesterol, smoking, obesity, lack of physical activity, unhealthy diet, and a family history of heart disease.

Diagnosis of heart disease usually involves a combination of medical history, physical examination, and tests such as the electrocardiogram (ECG), blood tests, and imaging tests such as an echocardiogram, CT scan, and MRI.

Treatment for heart disease depends on the type and severity of the condition. Still, it can include lifestyle changes, medication, and medical procedures such as angioplasty, bypass surgery, and heart valve replacement.<sup>[4]</sup>

**Prevention of heart disease involves**

- Adopting a healthy lifestyle, including eating a nutritious diet.
  - Regular physical activity.
  - Quitting smoking.
  - Managing stress.
  - Getting enough sleep.
  - Controlling risk factors such as high blood pressure and high cholesterol.
1. **Lifestyle modifications:** Lifestyle changes play a crucial role in reducing the risk of heart disease and improving heart health. This includes maintaining a healthy weight, eating a balanced diet that is low in salt, saturated and trans fats and rich in fruits, vegetables, whole grains, and lean protein, getting regular physical activity, quitting smoking, and managing stress through exercise, meditation, or other stress-relieving activities.
  2. **Medications:** Depending on the type and severity of the heart disease, medications may be prescribed to manage symptoms and reduce the risk of further cardiac events. These can include blood pressure-lowering medications, cholesterol-lowering medications, aspirin, and anticoagulants to prevent blood clots.
  3. **Medical procedures:** In some cases, medical procedures may be necessary to treat heart disease. These can include angioplasty, which opens narrowed or blocked coronary arteries, bypass surgery, which reroutes blood flow around a blocked artery; and heart valve replacement, which involves replacing a damaged or diseased heart valve with a mechanical or biological valve.
  4. **Cardiac rehabilitation:** Cardiac rehabilitation is a supervised program of exercise and lifestyle changes that can help improve the health and well-being of individuals with heart disease. This can include supervised exercise, education on heart-healthy lifestyle changes, and counselling on stress management, nutrition, and other health-related topics.<sup>[5]</sup>
  5. **Heart-healthy diet:** A diet low in saturated and trans fats, salt, and added sugars and high in fiber, fruits, vegetables, and whole grains can help reduce the risk of heart disease. Some specific dietary approaches, such as the DASH diet (Dietary Approaches to Stop Hypertension) and the Mediterranean diet, are particularly effective in improving heart health.
  6. **Exercise:** Regular physical activity can help improve heart health by reducing risk factors such as high blood pressure, high cholesterol, and obesity and by improving

cardiovascular fitness. Aim for at least 30 minutes of moderate-intensity exercise, such as brisk walking, most days of the week.

- 7. Quit smoking:** Smoking is a significant risk factor for heart disease, and quitting smoking can have immediate and long-term benefits for heart health.

In conclusion, heart disease is a serious condition affecting millions worldwide. By adopting a healthy lifestyle, managing risk factors, and seeking prompt medical attention if symptoms develop, individuals can significantly reduce their risk of developing heart disease and improve their overall health.<sup>[6]</sup>

- 1. The impact of heart disease on society:** heart disease is a leading cause of death and disability worldwide, with an estimated 17.9 million deaths each year. It is a major cause of absenteeism from work, reduced productivity, and increased healthcare costs for individuals and society.
- 2. Emerging risk factors for heart disease:** Besides traditional risk factors such as high blood pressure, high cholesterol, and smoking, there is growing evidence that other factors, such as air pollution, sleep apnea, and stress, may contribute to the development of heart disease.
- 3. Advances in heart disease treatment:** Advances in medical technology and research have led to the development of new treatments and procedures for heart disease, including minimally invasive surgical procedures, new drugs to manage heart failure and arrhythmias, and implantable devices such as pacemakers and defibrillators.
- 4. The role of genetics in heart disease:** While lifestyle and environmental factors play a significant role in the development of heart disease, genetic factors also play a role. Inheriting a genetic predisposition to heart disease can increase an individual's risk, but lifestyle factors can still significantly impact heart health.
- 5. Heart Disease and Other health conditions:** Heart disease is often associated with other health conditions, such as diabetes, high blood pressure, and kidney disease. Managing these conditions and maintaining a healthy lifestyle can help reduce the risk of heart disease and improve overall health.
- 6. Mental Health and Heart disease:** Mental health conditions, such as depression, anxiety, and stress, can have a significant impact on heart health, and individuals with heart disease are at increased risk for developing mental health conditions. A holistic approach to heart health that includes attention to mental health is essential for overall well-being.

7. **The importance of early detection:** Early detection and prompt treatment of heart disease is crucial for improving outcomes and reducing the risk of serious complications. Regular check-ups with a healthcare provider and prompt attention to any symptoms that develop can help ensure early detection and prompt treatment.
8. **The role of Community and Public health efforts:** Addressing heart disease requires a multi-faceted approach that includes individual efforts to maintain a healthy lifestyle and community and public health efforts to create a supportive environment that promotes heart health. This can consist of initiatives to improve access to healthy food options, increase opportunities for physical activity, and reduce exposure to air pollution and other environmental risk factors.<sup>[7]</sup>

## CONCLUSION

In conclusion, heart disease is a severe and complex condition that significantly impacts individuals and society. Addressing heart disease requires a comprehensive approach that includes attention to lifestyle factors, risk management, early detection and treatment, and community and public health efforts.

1. **Healthy Lifestyle Habits:** One of the most effective ways to prevent heart disease is to maintain a healthy lifestyle. This includes eating a healthy diet low in saturated and trans fats, exercising regularly, avoiding smoking and excessive alcohol consumption, managing stress, and getting enough sleep. Maintaining a healthy weight and avoiding a sedentary lifestyle can also help reduce the risk of heart disease.
2. **Managing existing health conditions:** If you have an existing health condition such as high blood pressure, high cholesterol, or diabetes, it is important to work closely with your healthcare provider to manage your condition. This can include taking medication as prescribed, making lifestyle changes, and monitoring your condition regularly.
3. **The benefits of exercise:** Regular exercise has been shown to have numerous benefits for heart health, including reducing the risk of heart disease, lowering blood pressure, improving cholesterol levels, and reducing stress. Aiming for at least 30 minutes of moderate exercises, such as brisk walking, most days of the week can help maintain heart health.
4. **The role of medication:** Medications can play an essential role in managing heart disease and reducing the risk of serious complications. This can include medications to control high blood pressure, lower cholesterol levels, and prevent blood clots. Working closely

with your healthcare provider to determine the best medication plan for your individual needs is important.

5. **The impact of stress:** Chronic stress has been linked to various health problems, including heart disease. Managing stress through activities such as exercise, meditation, and mindfulness can help reduce the impact of stress on heart health.
6. **Monitoring your heart health:** Regular check-ups with your healthcare provider and monitoring your heart health through measures such as tracking your blood pressure and cholesterol levels can help detect any changes early on and ensure prompt treatment if needed.
7. **The importance of support:** Living with heart disease can be challenging, but having the support of family, friends, and a healthcare team can make a big difference. Joining a support group or connecting with others with similar experiences can provide additional support and resources.

In summary, heart disease is a complex condition requiring a multi-faceted prevention and management approach. This includes maintaining a healthy lifestyle, managing existing health conditions, regularly monitoring heart health, and seeking support as needed. Individuals can reduce the risk of heart disease by protecting heart health and improving overall health and well-being.<sup>[8]</sup>

1. **Genetics and Family history:** Heart disease can run in families, and genetic factors can increase the risk of developing heart disease. Suppose you have a family history of heart disease. In that case, you must talk to your healthcare provider about steps to reduce your risk, such as making lifestyle changes and undergoing regular heart health screenings.
2. **Heart disease in women:** Heart disease is the leading cause of death for both men and women, but women may experience different symptoms and risk factors compared to men. Women should be aware of the specific warning signs of heart disease, such as fatigue, shortness of breath, and chest pain, and seek prompt medical attention if they experience any symptoms.
3. **Advances in treatment:** Advances in medical technology and treatment options have made it possible to treat and manage heart disease effectively. This can include minimally invasive procedures such as angioplasty and stenting, as well as medications and lifestyle changes.
4. **Heart Disease and Lifestyle choices:** The lifestyle choices we make can have a significant impact on our heart health. Smoking, excessive alcohol consumption, a

sedentary lifestyle, and a poor diet are all factors that can increase the risk of heart disease. Healthy choices, such as eating a balanced diet, exercising regularly, and avoiding harmful habits, can help reduce the risk of heart disease and improve overall health.

5. **Heart Disease and Diabetes:** People with diabetes are at increased risk for developing heart disease and other cardiovascular problems. Managing blood sugar levels, maintaining a healthy lifestyle, and working closely with a healthcare provider can help reduce the risk of heart disease in people with diabetes.
6. **Heart Disease and Mental health:** Mental health and heart health are closely linked, and stress and depression can increase the risk of heart disease. Maintaining good mental health through exercise, mindfulness, and therapy can help reduce the risk of heart disease and improve overall well-being.<sup>[9]</sup>
7. **Community resources:** Many communities offer resources and programs to support heart health, including classes on healthy lifestyle habits, support groups, and screenings and events to raise awareness about heart disease. Taking advantage of these resources can provide additional support and information on reducing heart disease risk.

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