

# Diet and Heart Disease

## Background:

- In the United States, for both males and females, heart disease is the number one cause of death. Heart disease accounts for 29% of total deaths in the US. (CDC, 2007)
- Heart disease occurs more often when a person has any of the following medical problems: high blood pressure and cholesterol, diabetes, physical inactivity and obesity. (CDC, 2007)
- Heart disease consists of many specific conditions, the most common in the United States being Coronary Heart Disease (CHD), which accounted for 71% of all heart disease deaths. (CDC, 2007)
- Usually, CHD is detected as angina. Angina consists of a severe chest pain, when blood supply is being cut off to the heart. Heart attack may also occur which is the first sign for others. (CDC, 2007)
- CHD occurs when the coronary arteries, that supply blood to the heart muscle, become hardened due to plaque buildup, a fatty substance including cholesterol. The hardening is known as atherosclerosis. (CDC, 2007)
- Over time, since the heart is a muscle, it may weaken and cause the heart not to be able to pump blood regularly. This is known as heart failure. (CDC, 2007)
- Heart attack occurs when heart muscle cells do not receive enough oxygen, the arteries leading to the heart are blocked and cells in the muscle start to die. (CDC, 2007)
- Other conditions that might occur, but not as commonly, include: Acute Coronary Syndrome, Aortic Aneurysm, Arrhythmias, Cardiomyopathy, Congenital Heart Disease (found at birth), Peripheral Arterial Disease (PAD), and Rheumatic Heart Disease. (CDC, 2007)
- Diet is a major part of the reason that people may contract heart disease. Everyone should maintain a healthy diet (watching calories, eating fresh fruits and vegetables, reducing salt intake and eating less saturated fat) and exercise for at 30 minutes a day as a precaution. (CDC, 2007)
- Diabetes (high blood sugar), high cholesterol and high blood pressure, smoking, drinking, and obesity (Body Mass Index of 30 or higher) are factors that can increase risk of heart disease. All of these factors can be monitored and reduced by stopping the bad lifestyle choices or changing diet and what you eat, as well as exercising. (CDC, 2007)
- Cholesterol is divided into two areas, good (HDL) and bad (LDL), higher levels of LDL can lead to heart disease. One should maintain higher levels of HDL in their system by monitoring their cholesterol intake. (CDC, 2007)
- Medline Plus, a Medical Online Encyclopedia recommends staying away from fatty foods such as things with oils and butter, like croissants and cream sauces. Also, consuming more than 6 ounces of cooked meat, poultry and fish can cause higher cholesterol and fat counts, it's best to limit these sources of protein. (Medline Plus, 2006)

- 37% of adults claimed they have at least two of the risk factors of heart disease. (CDC, 2007)
- If you show symptoms of heart disease, or heart disease is a hereditary factor in your family, there are some tests that doctors can perform to assess the risk involved. (CDC, 2007)
- Electrocardiogram (ECG/EKG) tests the regularity of your heartbeat and measures electrical function of the heart. (CDC, 2007)
- To create a picture of the heart to check for any abnormalities, doctors use an echocardiogram. Chest x-rays can also be taken. (CDC, 2007)
- To see how your heart handles exercise, stress tests are performed to measure if the heart needs more oxygen to see how hard it pumps. (CDC, 2007)
- Cardiac catheterization and angiography are used to determine areas of blockage in your arteries by collecting blood samples or injecting a dye into your blood stream. (CDC, 2007)
- Heart Disease can only be monitored, not cured. This includes changing your lifestyle and being prescribed medications for specific heart-related problems, including high cholesterol and high blood pressure and also, irregular heart beat and blood flow. If the problem is more advanced, surgery may be the option to take, which includes trying to unblock arteries, bypass surgeries and open heart surgery. (CDC, 2007)

### **Statement of the Problem:**

- 29% of people die each year from heart disease, so Healthy People 2010 has listed it as one of its leading indicators in their initiative. (Healthy People, 2010)
- Healthy People statistics show that “12 million people in the US have CHD” (Healthy People, 2010)
- Healthy People lists one of its goals to “improve cardiovascular health and quality of life through the prevention, detection, and treatment of risk factors.” (Healthy People 2010)
- Also, another goal stands as “early identification and treatment of heart attacks and strokes,” and also, “prevention of recurrent cardiovascular events.” (Healthy People 2010)
- Healthy People 2010 is looking to improve CHD deaths by 20% during its initiative, and also reduce blood pressure and high cholesterol, by making it “better than the best”. (Healthy People 2010)
- As Healthy People describes, “High blood cholesterol is a major risk factor for CHD that can be modified. More than 50 million adults have blood cholesterol levels that require medical advice and treatment.” (Healthy People, 2010)
- Healthy People explains that obesity is becoming a “growing public health problem” affecting people of all ages, and “over 55% of adults.”(Healthy People 2010)
- Healthy People also explains that trying to prevent the risk of heart disease early in life is a very important factor. “Balancing calorie intake with physical activity is crucial.” (Healthy People, 2010)

- Catching warning signs for heart disease early can increase your chances for a successful, healthy heart, problem-free life. Also, knowing when to seek help is a very important aspect to remember, whenever there is any kind of health concern, it's very crucial to see a doctor for early detection. (Healthy People, 2010)
- As of their midterm progress report, Healthy People 2010 reports that for high cholesterol levels for people aging 20 years and older "was down to 17% (1999-2002) from 21% (1988-1994)." Good dieting and use of medications helped to reduce the percentages. (Healthy People 2010)
- "Between 1999 and 2002, the CHD death rate dropped from 203 to 180 out of 100,000 people," according to Healthy People's midterm reports. (Healthy People 2010)

### **Epidemiologic Picture of the Issue:**

- "In 2002, 696,947 people died of heart disease." (CDC, 2007)
- For racial minorities including African Americans, Native Americans and Hispanics the number one cause of death is still heart disease. (CDC, 2007)
- 258 billion dollars is the estimated cost for treating heart disease. This large number includes health care and all of its components. (CDC, 2007)
- "Worldwide, CHD kills more than seven million people each year." (CDC, 2007)
- High blood pressure affects over 50 million people. High blood pressure occurs 40% more in African Americans, than any other race. (Healthy People 2010)
- When over the age of 65, 75% of people experience heart failure. (Healthy People 2010)
- Heart disease death is higher in African Americans than in Caucasians, and death occurs more for males than females, although females have less of a chance of surviving because of having many other health conditions. Females account for 51% of heart disease deaths. (Healthy People 2010)
- One in every 2 males and 3 females aged forty and younger are at risk to developing CHD at some point in their lives. (Healthy People 2010)
- Heart disease risk increases in adults over 18 that are: taking hypertension meds (30.2%), have high cholesterol (17.3%), are obese (30.5%), smokers (21.6%) and do not exercise (37.6%). (CDC, 2007)
- A study completed by Harvard University confirms that by "replacing just 2% of trans fats calories with healthier fats reduced the risk of heart disease by more than 50%." (Woolston, 2001)
- "About ¾ of people with diabetes die of some form of heart or blood vessel disease." (CDC, 2007)
- "In 2001, only 11% of people knew all the symptoms of a heart attack and called 911." One must recognize the warning signs of heart disease and call for help immediately; 47% of deaths occur without calling for any kind of help. (CDC, 2007)
- Healthy People 2010 aims to lower obesity 15% among adults. (CDC, 2007)

- Heart disease can be hereditary, and is linked to other genetic factors such as high blood pressure. These people may share a common environment, which can increase risk as well. (CDC, 2007)

### **Solutions to the Problem:**

#### **American Heart Association**

[www.americanheart.org](http://www.americanheart.org)

The American Heart Association's mission is "building healthier lives free of cardiovascular diseases and stroke." (AHA, 2007). The AHA has locations in each state to spread awareness of heart-related problems and their risk factors as well as trying to improve the overall problem of heart disease. With awareness, everyone can learn something about the problem, and hopefully be able to see the signs if anything were to happen to them. The American Heart Association works on initiatives and goals similar to Healthy People, to try and set specific goals of specific amounts to reduce heart disease and its other risk factors. The American Heart Association also works on local events such as walks, marathons and fundraisers to raise awareness and earn money to fund their nationwide program. One program that is in Connecticut consists of a Start! Solution. The Start! Programs aim to improve exercise and movement in workplaces, by starting walking clubs or even promoting physical activity while in the work environment. The AHA believes that small steps make a huge difference.

On their Web site, [americanheart.org](http://americanheart.org), the American Heart Association has many useful resources, consisting of anything from listings of walking groups to nutrition information. You can also sign up for email updates that include heart healthy recipes and fitness tips to exercise your heart! On their Web site you can find about campaigns the American Heart Association run nationwide such as "Go Red for Women," or you can find out where you can volunteer, if you are interested. You can also make donations to the association if you wish to do so. Overall, The American Heart Association aims for everyone to "Learn and Live," and also tries to promote heart disease and factor awareness all across our country, as well as give support for people dealing with heart disease or people who have lost loved ones.

#### **Center of Disease Control and Prevention- Department of Health and Human Services- Division for Heart Disease and Stroke Prevention**

[www.cdc.gov/heartdisease](http://www.cdc.gov/heartdisease)

The Center of Disease Control and Prevention (CDC) aims to help people gain awareness of certain diseases and learn how to prevent them. The CDC is very useful to gain a lot of very good information on any health topic you could imagine. The CDC aims at trying "to promote health and quality of life by preventing and controlling disease injury, and disability." (CDC, 2006) The CDC runs annual reports on issues, such as Heart Disease, and creates goals to try and accomplish by helping people understand what certain diseases are, and what to do to prevent them. The DHDSP has a Web site labeling very vital information. The CDC aims to try and help people learn about heart disease, learn risk factors, learn prevention skills, learn who and what kinds of people heart disease affects and gives overwhelming statistics regarding heart disease. The Web

site gives links to other really good sources, such as an online training manual on heart disease prevention. Overall, the CDC and the Division of Heart Disease and Stroke Prevention aim to help improve and increase the awareness toward heart disease, which could affect everyone and anyone some day.

### **National Heart, Lung and Blood Institute**

[www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)

The National Heart, Lung and Blood Institute is another resource that aims to give people information on diseases that affect the heart, lungs and blood. Through the institute you can gain a lot of information on heart disease (lung and blood issues as well). Their Web site aims to host information and publications on health issues as well as give out useful information for people dealing with these issues or looking for ways of prevention. There is also research available. The NHLBI gives a chance for people to learn more about heart-related topics through educational tutorials, a chance to save themselves through healthy recipes, and to see how others are being helped through educational campaigns. There are publications and fact sheets available as well for viewing to gain a better understanding of an issue you may want to know about. Overall, like most of the other heart disease Web sites and initiatives available, the most important concept is to understand what heart disease is and how you can save yourself from the leading cause of death.

### **Internet Resources:**

#### **Medline Plus- Medical Encyclopedia- Diet and Heart Disease**

<http://www.nlm.nih.gov/medlineplus/ency/article/002436.htm>

This Web site helped by giving a lot of facts about what food are good to consume when dealing with heart disease and what foods can help you prevent heart disease and obesity. Since diet and exercise are two of the most important factors when dealing with heart disease it is very important to understand what you should eat. This Web site explains what products are good for protein, calcium, and vitamins, as well as specific foods to avoid eating.

#### **Healthy Heart- Nutrition, Health and Heart Disease**

<http://www.health-heart.org/>

This Web site gives even more specific examples of foods that are good to consume, and what foods are bad to consume when trying to treat and prevent heart disease. The Web site gives detailed graphs and pictures of specific conditions such as bad cholesterol, and shows pictures of arteries infected with the disease due to blockage caused by fat. The Web site also helps people who want to know information behind the scientific aspect of food being consumed, by showing detailed flow charts of topics such as nutrients, obesity, heart disease and health span. It also contains tips on specific foods and how they work in conjunction with your nutrient intake.

## **A Healthy Me!**

[www.ahealthyme.com/topic/dietandheart](http://www.ahealthyme.com/topic/dietandheart)

This Web site might not be a.gov, .org or.edu, but it seems to have a lot of great information on all different types of health problems that can occur for people, and is run by Blue Cross and Blue Shield of Massachusetts. The Web site gives information on not only heart disease, but also Men's and Women's health and health over the age of 60. In relation to diet and heart disease, the Web site gives information, from a consumer health interactive about healthy diet basics even referring back to the American Heart Association. The Web site discusses different diets that one might try while trying to be heart healthy, as well as once again, what foods to stay away from when trying to prevent and protect yourself from heart disease. The Web site and the articles on it quote scholarly research as well as national associations that work especially for heart disease.

## **Bibliography:**

### **A Healthy Me!**

Woolston, C (2001). Reversing Heart Disease Through Diet. Retrieved 10/11/2007, from <http://www.ahealthyme.com/topic/dietandheart>

### **American Heart Association-**

American Heart Association. Retrieved October 11, 2007, from American Heart Association Web site: <http://www.americanheart.org>

### **Center for Disease Control –**

(2007). Heart Disease. Retrieved October 11, 2007, from CDC- Center for Disease Control Web site: <http://www.cdc.gov/heartdisease>

### **Healthy Heart-**

Vos, E (2006). Health Heart. Retrieved October 11, 2007, from Nutrition, Health and Heart Disease Web site: [www.health-heart.org](http://www.health-heart.org)

### **Healthy People 2010-**

(2000). Healthy people 2010. Retrieved 10/11/2007, from [http://www.healthypeople.gov/Document/HTML/Volume1/12Heart.htm#\\_Toc490544220](http://www.healthypeople.gov/Document/HTML/Volume1/12Heart.htm#_Toc490544220)

### **Medline Plus Medical Encyclopedia-**

Heart disease and diet. (2007). Heart disease and diet. In *Medline Plus- US National Library of Medicine* [Web]. Retrieved 10/11/2007, from <http://www.nlm.nih.gov/medlineplus/ency/article/002436.htm>

### **National Heart, Lung and Blood Institute-**

National Heart Lung and Blood Institute. Retrieved October 11, 2007, from National

Heart, Lung and Blood Institute- People Science Health Web site:  
<http://www.nhlbi.nih.gov/>

<b>Back to Betty C. Jung's Web site</b>	<a href="http://www.bettyjung.net/">http://www.bettyjung.net/</a>
<b>Back to Fact Sheet Directory</b>	<a href="http://www.bettyjung.net/Pch202fs.htm">http://www.bettyjung.net/Pch202fs.htm</a>

## Diet and Heart Disease Class Handout



- Heart Disease is the number one cause of death in the US, accounting for 29% (696,947) of total deaths. (CDC)
- Heart Disease is linked to other medical problems, which coincide with diet, including high blood pressure (affects 50 million people), high cholesterol, diabetes, obesity (which affects over 55% of adults) and lack of physical activity. Smoking and drinking also increase your risks of developing heart disease. 37% of adults have at least two of these risk factors. (CDC)
- Heart Disease can occur in different ways, the most common being Coronary Heart Disease (CHD), which accounts for 71% of all heart disease deaths. (CDC)
- CHD occurs when the coronary arteries in the heart become hardened with a fatty plaque buildup. Angina is the first sign of CHD occurring, which is a severe chest pain. (CDC)
- Diet is a major part of the reason that people may contract heart disease, you need to maintain a healthy diet, watching calories, eating fresh fruits and vegetables, reducing salt intake, eating less saturated fats and exercising for at least 30 minutes per day. (CDC)
- Avoid fatty foods and foods cooked with a lot of oils and creams, and one should not consume more than 6 oz. of cooked meats and fish because of the higher levels of cholesterol and fat in these foods. By replacing just 2% of trans fat calories, you reduce risk of heart disease by 50%. (Medline Plus, Woolston)
- Heart disease is hereditary (as are the other risk factors) and can be tested for by ECG/EKG, echocardiogram, stress tests, and cardiac catheterization. (CDC)
- Healthy People works towards improving cardiovascular health, quality of life through prevention, detection and treatment of risk factors. (Healthy People)
- For racial minorities, including African Americans, Native Americans and Hispanics, heart disease is still the number one cause of death. (CDC)
- Heart disease death is a higher risk for African Americans and occurs more often in men of every race, but women have less of a chance for survival (51% of CHD deaths were females). (CDC)
- It is extremely important to recognize the warning signs for heart disease; otherwise your chest pains could lead to death. (CDC)
- There are people to help in prevention and detection of heart disease such as the American Heart Association, The CDC and the National Heart, Lung and Blood Institute.