

Influenza

Introduction

I chose to write a paper about influenza because I think it is an interesting and relatable topic that people experience often through out their lives. Many people have either been sick with the flu or known someone who has had it and know that it is an unpleasant experience. The purpose of my research is to show how a person can “catch” the virus, how a person can treat or alleviate the flu if they become ill and most of all, how to prevent it from infecting them.

Section 1: Background and Problem Statement

Web site #1 Name: Centers for Disease Control and Prevention

- **Web Address:**
<http://www.cdc.gov/flu/professionals/infectioncontrol/healthcarefacilities.htm>
- **Background Information:**

Since the Healthy People 2010 web site did not provide adequate information on the influenza virus, the site, Centers for Disease Control and Prevention was the next best site with valuable facts and advice. CDC stated that influenza, commonly known as “the flu”, is a respiratory illness caused by the influenza viruses and is known to be very contagious and can lead to death. Influenza is transmitted through large droplets of the virus in the air when one coughs or sneezes. The droplets then settle on a person’s respiratory tract who are close by to the person infected. Influenza can also be transmitted by direct or indirect contact with surfaces infected with the virus and then touching one’s eyes, nose or mouth. There is no cure for influenza and it is rare for the virus to lead to fatal results, but in order to completely prevent the infection, it is best to receive an annual vaccination.

Web site #2 Name: MayoClinic

- **Web Address:**
<http://mayoclinic.com/health/influenza/DS00081/DSECTION=symptoms>
- **Background Information:**

According to MayoClinic, people can often confuse early symptoms of the flu with just the common cold. The difference is that colds gradually come on while influenza makes a sudden and harsh entrance. There is also the fact that the flu feels a lot worse and more debilitating than the common cold. MayoClinic states that the common symptoms of the flu are a high fever, usually over 101 ° F in adults and can reach as high as 103 ° F in children. A person with the flu will also have a combination of uncomfortable chills and sweats, a throbbing headache, dry cough, aching muscles in the back, arms and legs, fatigue, weakness, nasal congestion, loss of appetite and at times, diarrhea and vomiting.

Web site #3 Name: World Health Organization

- **Web Address:**
<http://www.who.int/mediacentre/factsheets/fs211/en/index.html>
- **Background Information:**

The World Health Organization site includes the types of people who may be at high risk at catching the influenza virus. These people are children younger than the age of 2, adults 65 years or older, and people at any age who may have some type of medical ailment that the virus could cause further complications. These ailments include chronic heart, lung, kidney, liver, blood or metabolic diseases. People who have weak immune systems are also at high risk for influenza.

Section 2: Research

Web site #1 Name: National Institute of Allergy and Infectious Diseases

- **Web Address:**
<http://www3.niaid.nih.gov/topics/Flu/understandingFlu/DefinitionsOverview.htm>
- **Summary of the research:**

Researchers have discovered that the influenza viruses are a group of RNA viruses that are categorized into groups, A, B and C. Type A is the most common and dangerous and begins in animals such as ducks, chickens, pigs, whales and often makes its way into humans. Type B and C are milder and do not initiate epidemics. Type A influenza is most likely the cause of global outbreaks in the years 1918, 1957, and 1968.

Web site #2 Name: Influenza Virus & The Flu

- **Web Address:**
www.bgsu.edu/departments/chem/scovell/influenza.doc
- **Summary of the research:**

Influenza A is divided into two subtypes according to the two types of proteins on the surface of the virus. These kinds of proteins are called hemagglutinin and neuraminidase. The rapid modification of these proteins causes the virus to spread more quickly and makes it more difficult to produce a sufficient vaccination. The most current subtypes of the A type are H1N1 and H3N2. The virus binds to receptors on cells in the respiratory tract called erythrocytes, which do not have the nuclei necessary for viral replication. However, the lungs contain many nucleated cells that assist the virus in its replication and can cause further complications such as difficulty breathing, bacterial infections and pneumonia.

Web site #3 Name: The Facts about Influenza

- **Web Address:**
http://www.amm.co.uk/files/factsabout/fa_flu.htm
- **Summary of the research:**

According to the site, the two proteins that are part of influenza can undergo an antigenic drift or shift. Small changes in the flu are the antigenic drift while the antigenic shift causes larger changes in the surface proteins. Only type A can undergo this shift and it is the antigenic shift that can be the catalyst for epidemics.

Section 3: Statistics

Web site #1 Name: The Flu Season

- **Web Address:** <http://www.cdc.gov/flu/about/season/flu-season.htm>
- **Summary of the statistics:**

The site says that during the past 26 flu seasons, months with the heaviest flu season occurred for one season in November, December for four seasons, January for five seasons, February for twelve seasons, and March for four seasons. This suggests that February is the month with the most number of flu cases through out the years.

Web site #2 Name: Key Facts About Seasonal Influenza

- **Web Address: <http://www.cdc.gov/flu/keyfacts.htm>**
- **Summary of the statistics:**

Each year in the United States, about 5 to 20% of the population will be infected with the flu. The site also states that more than 200,000 people will receive medical care or be hospitalized due to flu-related symptoms. Unfortunately, about 36,000 people die from flu-related causes. From this information, one can conclude that the flu is extremely prevalent throughout the United States and hopefully people will learn that receiving a flu vaccination can prevent the issue.

Web site #3 Name: Flu Activity & Surveillance

- **Web Address: <http://www.cdc.gov/flu/weekly/fluactivity.htm>**
- **Summary of the statistics:**

Influenza is under surveillance by 80 U.S. World Health Organization laboratories and 70 National Respiratory and Enteric Virus Surveillance Systems throughout the United States. They study and calculate the total number of respiratory specimens tested and which ones that are positive for Type A and B influenza and send the information to the CDC. These organizations are significant for understanding more about the virus.

Section 4: Consumer Information Section

Web site #1 Name: MayoClinic

- **Web Address: <http://www.mayoclinic.com/health/influenza/DS00081/DSECTION=lifestyle-and-home-remedies>**
- **Summary of the information:**

The Mayo Clinic site gives much needed information to the general public that any person would understand about influenza. The site says that generally if you are in good health and you catch influenza, you may feel rotten and really sick for a few days but most likely will not develop any complications that will require you go to a hospital. However, if your

immune system is weak and you suffer from chronic illness, the flu can be fatal so make sure to go see a doctor right away.

Web site #2 Name: Influenza Antiviral Drugs and Related Information

- **Web Address:**
<http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm100228.htm>
- **Summary of the information:**

There are two FDA approved drugs for Influenza. They are Tamiflu and Relenza. They are recommended by the CDC as good antiviral drugs to help alleviate the pain and discomfort of the flu but do not prevent the flu. They are to be taken when some have the flu and will help to heal faster. These drugs are specifically used against the H1N1 virus also.

Web site #3 Name: MayoClinic

- **Web Address:**
<http://mayoclinic.com/health/influenza/DS00081/DSECTION=risk-factors>
- **Summary of the information:**

The site says that one is at risk of getting influenza if you are an infant or young child, are over age 50, are a resident of a nursing home or other medical facility, have a chronic disease such as diabetes, heart, kidney or lung disease. You are also at risk if you have a weakened immune system from medications for HIV infection. If you are pregnant during the flu season that is a risk also. If you are in regular close contact with young children or infants, you must also be cautious.

Section #5: Solutions to the Problem

Web site #1 Name: MayoClinic

- **Web Address:**
<http://mayoclinic.com/health/influenza/DS00081/DSECTION=prevention>
- **Summary of the information:**

MayoClinic says that in order to prevent the outbreak of the flu, one must get an annual vaccination. The best to get vaccinated is October or

November, which allows one’s body to develop an antibody to the virus before peak flu season that begins usually in December. Healthy people from ages 2 to 49 may receive the FluMist nasal spray that protects against the same strains of influenza like the shot does.

Web site #2 Name: CDC Says “Take 3” Actions To Fight The Flu

- **Web Address:**
<http://www.cdc.gov/flu/protect/preventing.htm>
- **Summary of the information:**

CDC states that the best way to prevent the flu is receiving a vaccination. However, the vaccination is not the only way to prevent the flu. There are also some other preventive measures to be taken. One example is taking everyday preventive measures, such as covering your nose and mouth with a tissue when coughing or sneezing, washing hands often, avoid touching eyes, nose and mouth, and trying to avoid close contact with people who are sick. If you are sick with the flu, CDC advises that you stay home for at least 24 hours after your fever has subsided.

Web site #3 Name: MayoClinic

- **Web Address:**
<http://mayoclinic.com/health/influenza/DS00081/DSECTION=prevention>
- **Summary of the information:**

MayoClinic also says that there is no cure for the flu but there are many ways you can try and prevent the problem from happening to you. Not only is washing hands a good thing to do but also to develop health habits of eating right, sleeping well and exercising. A poor diet and poor sleep lower immunity. Exercise on the other hand boosts your immune system, Exercise will not prevent the infection but with a healthier body, you will be able to fight off the illness more quickly.

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