

Type 2 Diabetes

Introduction

I choose to do my fact sheet on Type II diabetes. Over the past few years I have become very familiar with this disease. My younger brother has Cystic Fibrosis, which is an inherited disease of the mucus glands that affects the respiratory system and chronic digestive system. A lot of CF patients are diagnosed with diabetes in childhood; this happens if the pancreas does not produce enough insulin, a condition known as insulin deficiency. Unfortunately at the age of 10, my brother was diagnosed with Type I diabetes. From then on my family and I have become very aware of how serious this disease is. Although type I and type II diabetes are slightly different they both make people insulin dependent and can cause serious health complications if it isn't treated properly.

After my brother was diagnosed with diabetes, I have always wanted to do a research project to get further information about this disease. When we were signing up for topics to do on the fact sheet I figured this would be the perfect opportunity to learn and go into depth about this topic. I felt it was important to educate others and myself about Type II diabetes.

Section 1: Background and Problem Statement

Web site #1 Name: Healthy People 2010

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- **Web address:** <http://www.healthypeople.gov/Document/pdf/Volume1/05Diabetes.pdf>
- **Background Information:**

The main objective in the Healthy People of 2010 is through prevention programs, reduce the disease and economic burden of diabetes, and improve the quality of life for all persons who have or are at risk for diabetes. Diabetes poses a significant public health challenge for the United States. Some 800,000 new cases are diagnosed each year or 2,200 per day. Diabetes is a chronic disease that usually manifests itself as one of two major types: Type II or I. Type II occurs usually in adults over 30 years of age, in which the body's tissues become unable to use its own limited amount of insulin effectively. The number of persons with diabetes has increased steadily over the past decade; presently, 10.5 million persons have been diagnosed with diabetes, while 5.5 million persons are estimated to have the disease but are undiagnosed. This increase in the number of cases of diabetes has occurred particularly within certain racial and ethnic groups. Over the past decade, diabetes has remained the seventh leading cause of death in the United States, primarily from diabetes-associated cardiovascular disease. (Page 3).

- **Web site #2 Name:** Type 2 : American Diabetes Association
- **Web address:** <http://www.diabetes.org/diabetes-basics/type-2/>

- **Background Information:**

Type 2 diabetes is more common in African Americans, Latinos, Native Americans, and Asian Americans, Native Hawaiians and other Pacific Islanders, as well as the aged population.

In type 2 diabetes, either the body does not produce enough insulin or the cells ignore the insulin. Insulin is necessary for the body to be able to use glucose for energy. When you eat food, the body breaks down all of the sugars and starches into glucose, which is the basic fuel for the cells in the body. Insulin takes the sugar from the blood into the cells. When glucose builds up in the blood instead of going into cells, it can lead to diabetes complications. (First paragraph)

- **Web site #3 Name:** Type 2 diabetes: Medline Plus Medical Encyclopedia
- **Web address:** <http://www.nlm.nih.gov/medlineplus/ency/article/000313.htm>
- **Background Information:**

Type 2 diabetes usually occurs gradually. Most people with the disease are overweight at the time of diagnosis. However, type 2 diabetes can also develop in those who are thin, especially the elderly. Family history and genetics play a large role in type 2 diabetes. Low activity level, poor diet, and excess body weight (especially around the waist) significantly increase your risk for type 2 diabetes. Other risks include: age greater than 45 years, HDL cholesterol of less than 35 mg/dL or triglyceride level of greater than 250 mg/dL, high blood pressure, and polycystic ovarian syndrome. (Fourth paragraph, first page)

Section 2: Research

Web site #1 Name: Behavioral science research in diabetes

- **Web address:** <http://care.diabetesjournals.org/content/24/1/117.full>
- **Summary of the research:**

Lifestyle factors related to obesity, eating behavior, and physical activity play a major role in the prevention and treatment of type 2 diabetes. In recent years, there has been progress in the development of behavioral strategies to modify these lifestyle behaviors. Further research, however, is clearly needed, because the rates of obesity in our country are escalating, and changing behavior for the long term has proven to be very difficult. Given the strong association between lifestyle behaviors and the prevention and treatment of type 2 diabetes, it is important that greater research attention be directed at issues related to the development of healthful eating and physical activity habits and strategies for modifying unhealthy behaviors. The focus should be on ways to change eating and physical activity behavior both from an individual perspective and a broader environmental perspective. (1st paragraph on first page and last paragraph on last page)

- **Web site #2 Name:** Current Clinical Research on type II diabetes and its prevention in youth
- **Web address:** <http://www.ncbi.nlm.nih.gov/pubmed/17542473?dopt=Abstract>
- **Summary of the research:**

Research that has been done illustrates that collaboration between schools, school nurses, clinicians, students, and families can help treat and prevent diabetes and obesity in youth. Findings will help identify the prevalence of diabetes in young people, the best ways to treat youth with new-onset type 2 diabetes, and healthful practices that can reduce risk factors for cardiovascular disease. Findings about diabetes prevention in the school setting can guide school nurses and school leadership to incorporate effective changes into food and physical activity offerings to students. Finally, school nurses can communicate with primary care providers and provide culturally sensitive letters to parents and guardians regarding the BMI results for the child. (Paragraph 1)

- **Web site #3 Name:** National Institutes of Health
- **Web address::** <http://www.nih.gov/about/researchresultsforthepublic/Type2Diabetes.pdf>
- **Summary of the research:**

New and more effective treatments have become available through research. New oral agents targeting the specific metabolic abnormalities of type 2 diabetes are available. Patients are benefiting from improved forms of insulin, a range of oral medications to control blood sugar and reduce the need for insulin, and new drugs that may not only control blood sugar, but also strengthen the activity of patients' own insulin-producing cells. (Page 1).

Section 3: Statistics

- **Web site #1 Name:** Diabetes Statistics
- **Web address:** <http://www.diabetes.org/diabetes-basics/diabetes-statistics/>
- **Summary of the statistics:**

These statistics are from the 2007 Nation Diabetes Fact Sheet (the most recent year for which data is available). Over 23.6 million children and adults in the United States- 7.8% of the population have diabetes. There are 17.9 million people diagnosed and 5.7 million people who are undiagnosed. There are 57 million people who have pre-diabetes and 1.6 million cases of diabetes are diagnosed in people aged 20 years or older each year. (1st page)

- **Web site #2 Name:** Connecticut Diabetes Prevention and Control Program
- **Web address:** <http://www.ct.gov/dph/cwp/view.asp?a=3135&q=397524>
- **Summary of the statistics:**

In Connecticut, an estimated 6.2 % of the adult population or approximately 163,000 adults age 18 years and older have been diagnosed with diabetes (2003-05). An additional 70,000 Connecticut adults are estimated to have undiagnosed diabetes. According to the Centers for Disease Control and Prevention, diabetes cost Connecticut an estimated \$1.7 billion in direct and indirect costs in 2003. In 2002, approximately \$77 million was billed for hospitalizations due to diabetes as a principal diagnosis and an additional \$39 million for diabetes with a lower extremity amputation. (3rd paragraph, 1st page)

- **Web site #3:** Statistics about Diabetes
- **Web address:**
http://medicalcenter.osu.edu/patientcare/healthcare_services/diabetes_endocrine/about_diabetes/statistics_about_diabetes/Pages/index.aspx
- **Summary of the statistics:**

- African Americans have a 40 percent to 50 percent higher risk for developing diabetic retinopathy, partly because this population also has a higher rate of hypertension. Approximately 10 percent of all Hispanic/Latino Americans (2 million) have diabetes. Hispanic/Latino Americans are twice as likely to have diabetes as are Caucasian Americans. Other Hispanic/Latino Americans are twice as likely to have diabetes as are non-Hispanic whites. American Indians and Alaska Natives are more than twice as likely to develop diabetes as are Caucasian Americans. Approximately 15 percent of American Indian adults have diabetes, although rates vary considerably among different tribes. Diabetes is the fifth leading cause of death among Asian Americans and Pacific Islander Americans ages 45 to 64. Asian Americans and Pacific Islander Americans are at increased risk for developing type 2 diabetes compared with Caucasian Americans. (Paragraphs 1, 2, and 3)

Section 4: Consumer Information

- **Web site #1 Name:** FDA Approves New Treatment for Type 2 Diabetes

- **Web address:**

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm198638.htm>

- **Summary of the information:**

The U.S. Food and Drug Administration today approved Victual (liraglutide), a once-daily injection to treat type 2 diabetes in some adults. Victual is intended to help lower blood sugar levels along with diet, exercise, and selected other diabetes medicines. "Diabetes is a leading cause of death and disability, with more than 1.5 million new cases diagnosed annually," said Mary Parks, M.D., director, Division of Metabolism and Endocrinology Products in the FDA's Center for Drug Evaluation and Research. "Controlling blood sugar levels is very important to preventing or reducing the long term complications of diabetes, and Victual offers certain patients with type 2 diabetes a treatment option for controlling their blood glucose levels". (Paragraph 1)

- **Web site #2 Name:** Diabetes Testing

- **Web address:** <http://diabetes.webmd.com/guide/diagnosing-type-2-diabetes>

- **Summary of the information:**

If you experience symptoms of severe increased thirst, frequent urination, unexplained weight loss, increased hunger, tingling of your hands or feet -- your doctor may run a test for diabetes. The fasting plasma glucose test (FPG) is the most common test used when diagnosing diabetes because it is easy, convenient, and less expensive than other tests. Normal fasting blood glucose -- or blood sugar -- is between 70 and 100 milligrams per deciliter or mg/dL for people who do not have diabetes. The standard diagnosis of diabetes is made when two separate blood tests show that your fasting blood glucose level is greater than or equal to 126 mg/dL. (Page 1)

- **Web site #3 Name:**

- **Web address:** <http://www.mayoclinic.com/health/type-2-diabetes/DS00585/DSECTION=complications>

- **Summary of the information:**

- Type 2 diabetes can be easy to ignore, especially in the early stages when you're feeling fine. But diabetes affects many major organs, including your heart, blood vessels, nerves, eyes and kidneys. Controlling your blood sugar levels can help prevent these complications. (page 1)

Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name:** Type 2 diabetes - Prevention
- **Web address:** <http://diabetes.webmd.com/guide/preventing-type-2-diabetes>
- **Summary of the information:**

Web MD suggests it is important to adopt healthy lifestyle habits in order to prevent type 2 diabetes. Some steps for type 2 diabetes prevention include adopting healthy lifestyle and taking diabetes medication, if needed. Physicians will recommend screening for type 2 diabetes at age 30 among people at risk, especially those with a family history of diabetes or who are overweight. (Paragraph 1-3)

- **Web site #2 Name:** Small Steps. Big Rewards. Prevent type 2 Diabetes. Campaign
- **Web address:** <http://www.ndep.nih.gov/partners-community-organization/campaigns/SmallStepsBigRewards.aspx?redirect=true>
- **Summary of the information:**

- The National Diabetes Education Program (NDEP) has created the *Small Steps. Big Rewards. Prevent type 2 Diabetes campaign*. The campaign's small steps message is, if you have pre-diabetes losing a modest amount of weight for example 10-15 pounds for a 200 lb person can help you prevent or delay type 2 diabetes. The big rewards message is preventing type 2 diabetes can mean a healthier and longer life without serious complications from the disease such as heart disease, stroke, blindness, kidney failure, and amputations. (page 1 paragraphs 1-2)

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- **Web site #3 Name:** Safe at School: Safety and Fairness for children with Diabetes
- **Web address:** <http://www.diabetes.org/assets/pdfs/schools/SAS-Booklet-2010.pdf>
- **Summary of the information:**

The American's Diabetes Association's Safe at School Campaign is dedicated to making sure all children with diabetes are medically safe at school and have the same education opportunities as their classmates. The Safe at School Campaign provides the know-how and resources to pro-actively ensure a smooth transition from home to school and is ready to help overcome any obstacles. If you need resources to help with back-to-school preparation call 1-800-DIABETES (342-2383) (1st page, last page)

Conclusions

After researching this fact sheet on type 2 diabetes I was surprised on how much information I have acquired about this disease. I was shocked to find out how many Americans have diabetes and it is a growing epidemic in the United States. It is scary to find out there is no cure for diabetes. But, if you manage your sugar levels with proper amounts of insulin and

maintain a healthy weight you will not be at risk for eye complications, foot complications, skin complications, hypertension and mental health. Overall, this fact sheet was very beneficial to me because my younger brother has type 1 diabetes.

Five-minute Twitter Brief

The number of people with Type 2 diabetes has increased over the past decade; 10.5 million people have been diagnosed. Diabetes has remained the seventh leading cause of death in the U.S.

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