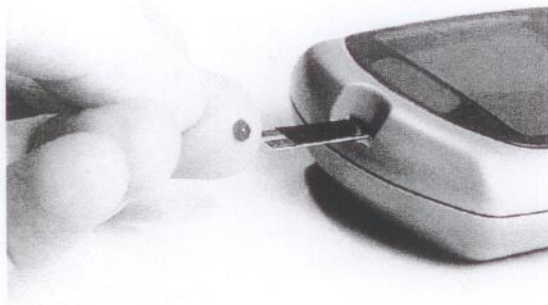


Diabetes



Diabetes, the 21st Century Epidemic

November 14, 2007

CBC News

Diabetes — or complications from the disease — now kills 3.8 million people a year or about the same number as HIV/AIDS (CBC)

Interactive: Major complications of diabetes

So you're finding yourself thirsty all the time — a lot more than usual. Or you've been really, really tired lately. Can't seem to get enough sleep.

Maybe you've dropped a bunch of weight — without even trying. Funny, but these days, it seems you always have to urinate, even when you've just gone.

You dismiss it all as just something you're going through. Something that will pass.

Well, it could be that you've developed something that's going to stick around for the rest of your life.

You could be one of the almost 250 million people around the world who has diabetes. A third of those people aren't even aware they have the condition. Forty-six per cent of them are between 40 and 59 years old.

Quick facts

Two million of them are Canadian.

Diabetes — or complications from the disease — now kills 3.8 million people a year or about the same number as HIV/AIDS.

The International Diabetes Federation calls the disease the epidemic of the 21st century. It notes that only 20 years ago, the best information suggested that 30 million people around the world had the disease. The federation expects that by 2025, the number of people living with diabetes will hit 380 million — if nothing is done.

In 1991, the federation and the World Health Organization proposed a World Diabetes Day as a way to bring attention to the escalating incidence of diabetes around the world. It took 15 years for the United Nations to pass a resolution declaring Nov. 14, 2007, the first World Diabetes Day.

The date of what is to be an annual event was chosen to mark the birthday of Frederick Banting. Along with Charles Best, Banting is credited with discovering insulin.

In 1999, the federal government pledged \$115 million over five years to develop a Canadian Diabetes Strategy. Its goals included developing a health-promotion, disease-prevention strategy for the entire population and improving access to information about diabetes and the effects it can have.

Still, the number of new cases continues to grow. In March 2007, a Canadian study suggested that the disease was outpacing expectations and growing rapidly. Lorraine Lipscombe of the Institute for Clinical Evaluative Sciences in Toronto found that the percentage of people with diabetes in Ontario, and probably the rest of Canada, has jumped noticeably, affecting about one in every 11 adults, or 8.8 per cent of the population. By comparison, the disease affected just 5.2 per cent, or one in every 19, in 1995.

The study, published in the *Lancet*, suggests that rising obesity levels across Canada are contributing to the onset of the disease.

These figures exceed original projections made by the World Health Organization, which suggested that diabetes would affect 8.4 per cent of people in developed countries.

What is diabetes?

Diabetes interferes with the body's ability to produce or properly use insulin, a hormone that is essential for the proper use of the energy contained in the food we eat. You need insulin to process glucose, a sugar that your body requires for fuel. If your body is not producing or properly using insulin, you will have too much — or too little — glucose in your system.

There is no cure for the condition, but diabetes can be controlled through diet or medication. Over time, diabetes can lead to life-threatening and debilitating complications.

There are three main types of diabetes.

Type 1 diabetes occurs when your body makes little or no insulin. There is no known cause for it. You normally find out that you have it while you are a child or an adolescent. For that reason, it used to be called juvenile or insulin-dependent diabetes.

Type 1 diabetes is normally treated through insulin therapy. You take insulin injections to compensate for a pancreas that isn't working properly. The pancreas is the organ that produces insulin in the body.

In January 1922, a 14-year-old Toronto boy, Leonard Thompson, became the first diabetic in the world to receive an insulin injection. The treatment was deemed a success and earned Frederick Banting and J.J.R. MacLeod the Nobel Prize for Medicine the next year.

Type 2 diabetes occurs when the pancreas either does not make enough insulin or makes it but cannot use it properly. Nine out of 10 Canadians with diabetes have type 2 — and 60,000 new cases are diagnosed each year.

Many people don't know they have type 2 diabetes until they go to the doctor, usually for an unrelated problem.

The condition is usually controlled through diet.

Gestational diabetes affects pregnant women. Up to 18 per cent of aboriginal women in Canada and 3.5 per cent of non-aboriginal women will develop the condition during pregnancy.

The condition usually disappears after childbirth, but a woman who has had gestational diabetes faces a higher risk of developing type 2 diabetes later in life. The condition can also pose a

danger to the unborn child and the mother. The child may be born severely obese, putting him or her at a higher risk of having a dangerously low blood glucose level. There is also a risk of severe breathing problems.

Like type 2 diabetes, gestational diabetes is usually controlled through diet.

What are the symptoms?

The classic symptoms of type 1 diabetes include:

Feeling tired.

Unusual thirst.

Frequent urination.

Being hungry.

Mood swings.

Weight loss.

Blurry vision.

Frequent infections.

Symptoms of type 2 diabetes and gestational diabetes are similar. They include:

Recurring skin, gum or bladder infections.

Cuts and bruises that are slow to heal.

Itchy skin.

Frequent vaginal yeast infections.

Fatigue, drowsiness or blurred vision.

Increased thirst.

Frequent need to urinate.

Tingling in the hands or feet.

Sometimes there are no symptoms.

What are the risk factors?

Risk factors for type 1 diabetes have not been identified as it's still not clear what causes the disease. But there are many risk factors for type 2. They include:

Age. Most cases of type 2 diabetes occur in people 40 and older.

Obesity, especially if you have an "apple-shaped" body that carries extra weight around the middle.

A sedentary lifestyle.

High cholesterol, high blood pressure and a high fat diet.

Having a family member who has diabetes.

Gestational diabetes, which leaves you with a 40 per cent risk of developing type 2 diabetes.

If you gave birth to a baby that weighed more than four kilograms (about nine pounds), your risk is higher.

Aboriginal people have a three to five times higher risk than other Canadians.

People of Hispanic, Asian, South Asian or African descent are also more at risk.

What can I do to avoid developing diabetes?

Diet and exercise. A healthy diet and keeping fit will go a long way towards minimizing your risk of developing diabetes. Limit the amount of fat and sugar in your diet and don't smoke.

It also helps to keep your cholesterol levels within healthy ranges and to maintain a normal blood pressure.

In other words, do all those things you're supposed to do to maintain good health. And hope that genetics is working in your favour.

The International Diabetes Federation says it's critical for parents to ensure their children are eating a healthy diet and exercising. The number of children being diagnosed with type 2 diabetes is skyrocketing.

"There is no doubt that this is linked to the epidemics of overweight and obesity, and there is no doubt that this increase in overweight and obesity is linked to the profound way in which the life of those children and adolescents has changed over the past 10 to 20 years," Pierre Lefebvre, the group's outgoing president, told the World Diabetes Congress in South Africa.

The congress was told that as long as developing countries continue to embrace the bad health habits associated with affluence, the diabetes epidemic will continue to grow.

What are the major complications associated with diabetes?

Diabetes is a lifelong condition. If left untreated, high blood glucose levels over a long period of time can cause:

Blindness.

Heart disease.

Reduced blood supply to the limbs, leading to amputation.

Nerve damage.

Erectile dysfunction.

Stroke.

Diabetes has also been linked to depression. It's estimated that 25 per cent of people who live with diabetes also have symptoms of depression.

The Canadian Diabetes Association says you can greatly reduce your risk of developing the complications associated with diabetes if you "keep your blood sugars as close to normal as possible, maintain your weight at an acceptable level, and live a healthy lifestyle."

What new treatments are scientists exploring?

In August 2007, U.S. researchers said results from a mice study suggested bone cells release a hormone called osteocalcin that may help regulate the metabolism of blood sugar and fat deposits.

Lead author Dr. Gerard Karsenty of New York's Columbia University said current research is focusing on using osteocalcin injections as a method to prevent or eliminate type 2 diabetes. But experts note that more research is needed before a definitive link between osteocalcin and diabetes can be made. They also said it will be another 10 to 15 years before it is known if the treatment is safe for and helpful to humans.

In December 2006, Canadian researchers linked pain receptors with type 1 diabetes in a mice study. Lead author Dr. Hans Michael Dosch of Toronto's Hospital for Sick Children said researchers found that pain receptors don't secrete enough neuropeptides – chemical elements found in the brain – to keep insulin-producing pancreatic islets functioning normally. When diabetes-prone mice were given neuropeptides, diabetes was reversed without adverse side effects. The researchers are working to expand their study to include humans¹

¹<http://www.cbc.ca/news/background/health/diabetes.html>

Diabetes Quiz:

1. Diabetes kills almost the same amount of people a year as..
 - a, HIV/ AIDS
 - b, Cancer
 - c, Smoking
 - d, Car accidents
2. The first world Diabetes day was when?
 - a, November 10th, 1912
 - b, November 14th, 2007
 - c, December 14th, 2003
 - d, February 18th, 2007
3. This day is also the birthday of Frederick Banting, who along with Charles Best, discovered...
 - a, Glucose
 - b, Insulin
 - c, glycosuria
 - d, Diabetes Mellitus
4. In type 1 diabetes, you take insulin, why?
 - a, To compensate for a pancreas that is not working properly
 - b, To raise the renal threshold
 - c, Cause dehydration
 - d, To regulate the acidosis
5. Gestational diabetes is a type that effects who?
 - a, Elderly women
 - b, Young children
 - c, Pregnant women
 - d, It is the only type that effects everyone
6. Which is NOT a symptom of Type 2 diabetes and gestational diabetes?
 - a, Itchy skin
 - b, Fatigue
 - c, increased thirst
 - d, increased dreaming
7. Which of the following is NOT a symptom of diabetes if left untreated?
 - a, Blindness
 - b, Hair loss
 - c, Heart Disease
 - d, Stroke



Diabetes Quiz Answers:

1. A

2. B

3. B

4. A

5. C

6. D

7. B

