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Diabetes: A Global Epidemic

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Diabetes is said to be a global epidemic. One in twenty people in North America has diabetes. The world Health Organization estimates that by the year 2010 there will be 239 million people living with diabetes. This classifies it as a global epidemic.

Each year, complications from diabetes, most notably heart disease as well as stroke, peripheral vascular disease and neurological problems kill more people around the world than AIDS, breast cancer and lupus combined. Diabetes is still the leading cause of death by disease in North America, despite the availability of insulin treatment. Almost everyone has a friend or relative with diabetes. Yet the seriousness of the disease is still widely underestimated.

The human body is a fine tuned, smoothly running machine. It transforms the sugars, starches and other components of an individual's diet into energy - energy needed to perform the daily tasks of life. The body's cells need glucose (a form of sugar) to produce energy. The hormone insulin normally helps glucose enter the cells, but with diabetes that system goes awry.

Diabetes is classified into two categories: type I and type II. Typically (not always), type I diabetes occurs in younger individuals; type II, also known as non-insulin-dependent diabetes mellitus (NIDDM) is more common in older individuals. Ninety percent of diabetes cases are type II. In type I diabetes, the insulin-producing cells are destroyed, so insulin is not produced. In type II diabetes, these cells produce insulin, but it is ineffective at helping blood sugar, or glucose, enter the body tissues needing it for energy production. While a family history of type I diabetes affects an individual's risk of developing the disease, the level of increase is not nearly as great as with type II diabetes. Other factors related to type I diabetes are environmental conditions and viral infections that destroy the pancreas; factors related to type II include age, race and obesity.

Regardless of which type of diabetes an individual has, the condition can have serious consequences. For example, an extremely elevated blood-sugar level (hyperglycemia) can cause fatigue, dehydration and blurred vision. Left unchecked for a few days, particularly in individuals suffering from type I diabetes, severe hyperglycemia can result in loss of consciousness, coma or death. Over an extended period, moderately elevated blood-sugar levels can affect the vessels feeding the brain, eyes, heart and kidneys, causing damage to those vital organs. Moderately elevated blood-sugar levels can also lead to nerve damage.

Exercise to the rescue. Fortunately, exercise can help individuals with diabetes control their condition and reduce their risk of life-threatening complications. Exercise can greatly decrease an individual's chance of incurring the disease in the first place. In fact, research shows that exercise can reduce the likelihood of developing diabetes by more than half - including people who either are obese or are genetically predisposed to the disease. In a major study conducted at the University of California, Berkeley, researchers found that for every extra 500 calories a week an individual expends during exercise, that person's risk of developing diabetes is reduced by 6 percent.

As for individuals with diabetes exercise can be beneficial both directly and indirectly. Exercise has the effect of lowering elevated blood-sugar levels. By exercising on a regular basis, some diabetics who require medication to control their blood-sugar levels are able to reduce, or, in the case of many type II diabetics, even discontinue their intake of medication. Exercise also helps minimize the health risks of individuals with diabetes - in particular the most common causes of illness and death - coronary heart disease, stroke and various cardiovascular complications. Thirdly, exercise helps reduce excess weight and body fat - a major contributing factor to the development of type II diabetes in individuals as they age. Insulin sensitivity is significantly enhanced following exercise-induced reductions in weight and body-fat levels. As a result less insulin is needed and the body's metabolic system fluctuates less allowing for better blood-sugar regulation. Lastly, exercise can have a significant psychological impact on diabetics. Regular exercise may effectively reduce emotional stress, increase feelings of well-being and improve the overall quality of life.

Individual with diabetes should undergo a complete medical evaluation before starting an exercise program. Exercise programs should be designed in accordance with the type of diabetes and its level of severity. The challenge is to strike a proper balance between diet, exercise and medication.

The bad news is that the prevalence of type II diabetes has tripled over the past three decades, mostly due to the increase in obesity rates. The good news is that researchers from the National Institute of Health recently found that diet and exercise can sharply lower the risk of getting type II diabetes for a diverse population of overweight people who are not yet diabetic.

So many of our health problems can be avoided through diet, exercise and making sure we take care of ourselves. A healthy lifestyle will improve quality of life and reduce health costs dramatically.

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