

Incidence and Prevalence of Diabetes, Obesity, and lack of Physical Activity Worldwide

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Received: August 02, 2017; **Published:** October 12, 2017

Worldwide, the number of individuals with diabetes has risen considerably over the past 10 years. According to the World Health Organization, the prevalence of diabetes has risen more rapidly in middle and low income countries as well as ethnic minorities. Individuals with diabetes incur more medical expenses than those without diabetes. Even worse, there is an alarming rise in the number of individuals who have pre-diabetes and often do not know it. Studies show that approximately 70% of those with pre-diabetes eventually develop diabetes.

To reduce the risk of developing diabetes, it is important to focus on the modifiable risk factors of eating a healthy low-fat diet, being physically active, and maintaining a healthy body weight. A diet that is generally low in fat can help with weight loss or to maintain a healthy weight. A healthy low-fat diet starts with lots of plant-based food such as whole grain products, fruits, and vegetables, preferably locally grown or organic. However, it is important to use caution with meals focused around starchy carbohydrates such as bread, rice or pasta, even if whole grain, as these carbohydrates can spike blood sugar and lead to weight gain. Many fruits and vegetables are high in antioxidants, fiber and other nutrients, which are very important for providing the human body with micronutrients needed to carry out many important body functions. Fresh is best, being careful to minimize juices and dried fruits that can quickly elevate blood sugar levels and canned fruits and vegetables tend to have high sodium content. Another component of a healthy-low fat diet is lean and low-fat, meat and dairy products that contain many key nutrients, such as like protein, calcium, folate, vitamins B1, B2, B6, B12, and vitamin A, D, and E. Eating a low-fat diet will help with maintaining a healthy weight to reduce the risk of diabetes, heart disease and stroke, and certain types of cancer.

Physical activity is any bodily movement that requires more energy above resting. For adults, examples of physical activity include occupational work, household chores, leisure time activity, transportation, planned exercise or sports, and walking, dancing, or gardening. To reap health benefits, physical activity needs to be moderate or vigorous intensity and even modest amounts of physical activity have good health benefits. More physical activity will result in more physical health benefits. The immediate effects of physical activity is that it increases insulin sensitivity of the active skeletal muscles and improves glycemic control. Thus, exercise is recommended by many health-care professionals for blood sugar management, maintaining weight, reducing body fat, and complications for individuals with diabetes.

Maintaining a healthy body weight is crucial for managing diabetes and other chronic diseases. However, body weight is just a measure of total weight, not body fat, muscle or bone. A pound is a pound is a pound. Determining body mass index, or BMI, is an important first step to find the correct body weight based on age, gender, height, and ethnicity. An individual's BMI is a measure of body fat based on height and weight (kg/m^2) and is a simple measure of an individual's fatness. It is traditionally used to classify populations and to measure obesity trends. Ideal BMI ranges for adults is $18.5 \text{ kg}/\text{m}^2$ to $24.9 \text{ kg}/\text{m}^2$, overweight is a BMI of $25 \text{ kg}/\text{m}^2$ to $29.9 \text{ kg}/\text{m}^2$, and obesity is a BMI of $30 \text{ kg}/\text{m}^2$ or greater. Eating a healthy low-fat diet, being physically active, and maintaining a healthy weight are key elements of decreasing the incidence and prevalence of diabetes worldwide.

Volume 1 Issue 2 October 2017

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