

Obesity and disease risk

America is overweight. Millions of Americans are fighting the battle of the bulge. The economic cost of obesity related illness was estimated at more than \$39 billion back in 1986. Adding insult to injury, a study in the *Journal of the American Medical Association* indicated that out of 12,835 obese adults who visited their physician over a 12-month period, only 42 percent reported that their physicians advised them to lose weight. What makes the rise in obesity and lack of weight loss referrals so serious is that there is a direct correlation between obesity and disease risk.

What is overweight?

Weight for height tables have been implemented and changed over the years. Many people are comfortable at different weights. While such tools of measurement are respectable, body mass index (BMI) is the most widespread tool for measuring overweight in clinical research, and elevated BMI values can be associated with various diseases. By definition, body mass index refers to a person's weight in relation to height. Normal range is considered to be between 19 to 24.9. Overweight may then be determined by a BMI between 25 and 30, and obesity as a BMI above 30. High BMIs are associated with a higher risk of certain diseases and an increase in mortality. The opposite holds true as well. A decrease in BMI equals a decrease in mortality and a decreased risk in developing certain diseases. However, it is not a completely infallible measurement tool. BMI does not fully correct for leg length or body build. Having a large lean body mass will negate BMI values. Such a situation is present in body builders with a large musculature and other professional athletes. However, for the majority of the population, BMI can be an accurate and simple way of measuring overweight and the risk of developing certain diseases.

How to calculate BMI:

BMI equals weight multiplied by 705 and divided by height in inches squared. For example, a 155 pound 5'7" female would have a BMI of 24.3. Here is how I came to that conclusion. Weight in pounds $155 \times 705 = 109275$. Height in inches squared $67 \times 67 = 4489$. 109275 divided by $4489 = 24.3$.

Diseases associated with obesity:

Obesity increases the risk of developing certain diseases. The American Health Foundation, a non-profit research organization dedicated to finding preventive strategies to reduce chronic diseases, convened an expert panel to consider the increasing prevalence of obesity. The expert panel was comprised of authorities on diseases that are directly associated with excess body weight. These findings were published in the *American Journal of Clinical Nutrition*. Regardless of this publication, many doctors are not heeding the warning.

Cardiovascular disease risk increases due to overweight elevating blood pressure, cholesterol, triglycerides and increasing insulin resistance. The location of excess body fat can further increase CVD risk. Central obesity for example, is directly associated with an increased risk of heart disease. A 20 percent reduction in body weight can reduce CVD risk by 40 percent. This can be achieved by keeping BMI in the normal range. More than 50 percent of all cases of hypertension are simply due to being overweight.

The incidence of diabetes increases with increasing weight. Diabetes is three times more likely in obese individuals with a BMI of 28 or greater.

Osteoarthritis symptoms are worse in men and women with a BMI greater than 25.

Excess body weight stresses joint cartilage.

Cancer risk can increase due to elevated hormones associated with obesity, influencing cancer development. Excess estrogen is linked with reproductive system cancers. Adipose tissue (fat tissue) is a major site of estrogen synthesis in women. Scientists link a BMI of 28 to 30 with an increase in cancer risk.

Other diseases associated with obesity include sleep apnea, abdominal hernias, varicose veins, gout, gall bladder disease, respiratory problems including Pickwickian syndrome (a breathing blockage linked with sudden death) and liver malfunction.

Massive obesity, indicated by a BMI greater than 40, is so closely associated with health problems that it is regarded as a disease in its own right.

Next month we will focus on strategies to lose weight and reduce BMI.

References:

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