

Can an orange a day keep the doctor away?

14 December 2016, by Sandhya Sriram



Credit: Wikipedia

Everyone has heard about how an apple a day can keep the doctor away. Well, I have a different take on it—use an orange instead!

Having worked with antioxidants and oxidative stress ([harmful free radicals](#)) for about a decade now, I am convinced that antioxidants are the way to go to prevent or relieve the symptoms of certain diseases—they also help to keep you energetic by detoxifying your body.

Vitamin C, an antioxidant, is abundant in citrus fruits like oranges, lemons, and limes as well as papayas, guavas, pineapples, and my personal favorite, berries. Vitamin C supplementation has been shown to lower the risk of stroke, relieve common colds, protect against immune system deficiencies, prevent cardiovascular diseases, maintain healthy and wrinkle-free skin and improve eye health. My research, in particular, focuses on the effect of Vitamin C on obesity.

Excess fat or '[adipose tissue](#)' is what leads to obesity and adipose tissue like every other organ consists of [stem cells](#). A stem cell is an

undifferentiated cell which is capable of giving rise to more cells of the same type, or of certain different types of cells upon appropriate triggers. My work entails identifying inherent differences during obesity in adipose stem cells from different depots of fat—mainly, subcutaneous fat ('good' fat that helps you burn calories, located below the skin) and visceral fat ('bad' fat that stores calories, located around the abdominal organs).

Obesity is a pandemic affecting majority of the world's population. According to the World Health Organization (WHO), the world is getting fatter—approximately 850 million people were either overweight or obese in 1980, this skyrocketed to 2,100 million people in 2014.

Obesity is defined by the [body mass index](#) (BMI). According to the WHO; a score between 25 and 30 is considered overweight and anything above 30 is obese. Obesity is a metabolic syndrome that is related to arthritis, cancer, infertility, diabetes, heart diseases, stroke and back pain. The best way to avoid becoming obese and reduce your body weight is to follow the ABC rules—Adopt new healthy habits (bike to work, have a balanced diet, swim etc.), Balance your calorie intake and Control your weight gain. Overall, obesity is definitely a preventable disease.

Being of Indian origin and having lived in Singapore for about 8 years now, I have always thought that the amount of rice consumed by Asians could be harmful. This feeling has been proven right by the latest report that, in Singapore, 4 in 10 adults are overweight and more than 400,000 are diabetic. These are alarming numbers for a nation that has a population of less than 6 million.

That is why our lab specializes in identifying key characteristics of adipose stem cells that can contribute to [obesity](#) and ways to reduce [fat accumulation](#). My research, in particular, is on the effect of vitamin C on human subcutaneous and visceral adipose stem cells obtained from obese subjects and the mechanism by which it curbs the

excess [oxidative stress](#). For now, I can reveal only so much, but stay tuned for more exciting insights from my research in the near future.

I can, however, tell you this—have an orange a day and keep the fat away!

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