

## Cut dietary omega 6 and boost omega 3 to curb soaring obesity rates, urge experts

*Ratio now 16:1 when it has always been 1:2/1 throughout human evolution*

Governments and international bodies should ditch their obsession with calories and energy expenditure to curb soaring obesity rates, and instead focus on restoring the correct balance of omega 6 and omega 3 fatty acids in the food supply chain and diet, urge experts in an editorial in the online journal ***Open Heart***.

Nutrition policies based purely on the mismatch between 'calories in and energy out' in the belief that all calories are equal, have "failed miserably over the past 30 years," argue Drs Artemis Simopoulos of the Center for Genetics, Nutrition, and Health, Washington DC, and James DiNicolantonio of Saint Luke's Mid America Heart Institute, Kansas.

So much so, that 1.5 billion people around the globe are now overweight while 500 million are obese.

Major changes in food supply over the past century, as a result of technological advances and modern farming methods, have distorted the omega 6 to omega 3 fatty acid ratio in the typical Western diet, which developing countries are now also increasingly adopting, say the authors.

The production of vegetable oils high in omega 6, such as sunflower, safflower, and corn oils, has soared, while animal feeds have switched from grass, which contains omega 3, to grain, resulting in higher levels of omega 6 in meat, eggs, and dairy products.

This matters because while the body needs both types of fatty acid, human beings evolved to eat a diet containing equal amounts of omega 6 and omega 3 in it. But that dietary ratio is now a belt-busting 16:1 rather than the healthy 1: 2/1, the authors contend.

Fatty acids act directly on the central nervous system, influencing food intake and the sensitivity of the hormones involved in blood sugar control (insulin) and appetite suppression (leptin).

But too much omega 6 promotes inflammation and is prothrombotic (increasing the risk of blood clotting) as well as boosting production of white fat tissue that is stored rather than 'good' energy-burning brown fat tissue.

And copious amounts of white fat and chronic inflammation are the hallmarks of obesity, the authors point out, as well as being linked to type 2 diabetes, cardiovascular disease, metabolic syndrome, and cancer.

Furthermore, different populations metabolise fatty acids differently, making them more or less vulnerable to the consequences of an imbalance, they add.

They point to several key studies that have shown a strong link between the dietary omega 6 to omega 3 ratio and long term weight gain.

"The time has come to return the omega 3 fatty acids in the food supply and decrease the omega 6 fatty acids by changing the cooking oils and eating less meat and more fish," they

write. "The composition of the food supply must also change to be consistent with the evolutionary aspects of diet and the genetics of the population," they add.

"The scientific evidence to balance the omega 6 to omega 3 ratio is robust and necessary for normal growth and development, prevention and treatment of obesity and its comorbidities, including diabetes, cardiovascular disease and cancer," they continue.

And they conclude: "It is the responsibility of governments and international organisations to establish nutrition policies based on science and not continue along the same path of focusing exclusively on calories and energy expenditure, which have failed miserably over the past 30 years."