

Frequently asked questions (FAQ)

Study summary

This is a summary of a paper that is being published on bmj.com as BMJ 2012;345:e7666

Study question: Does lower total fat intake lead to lower body weight in adults and children?

Summary answer: High quality, consistent evidence shows that reduction in total fat intake leads to small but statistically significant and clinically meaningful reductions in body weight in adults, with supporting evidence for a similar effect in children and young people.

What is known and what this paper adds: The ideal proportion of total fat in the human diet is unclear. This systematic review provides a large and consistent body of evidence that lowering total fat intake, as a proportion of energy intake, results in lower body weight in the long term, lower body mass index, and waist circumference in adults, with a dose-response relationship. Evidence in children and young people is more limited, but supports a similar relationship.

Message: choosing to eat less fatty foods consistently (without trying to lose weight) results in lower weight. The average weight is 1.6kg (3.5lb) lower, but those reducing fat more will lose more weight compared to people who keep eating as usual. This effect lasts over at least 7 years.

Isn't this obvious?

Not really – people would expect that you need to choose to cut down on the amounts of food you eat (calories or energy) to lose weight. But our findings suggest this weight loss happens without trying to lose weight or cut down overall.

What sorts of changes in food are involved?

Replacing fattier foods with less fatty foods, for example:

- Using skimmed or semi skimmed milk instead of full cream
- Having more bread but less butter, margarine or cheese on top
- Cutting the fat off meat, but having a bit more potato
- Have plenty of vegetables on your plate, and fruit in place of cake or a biscuit

Is this the same in men and women, children and adults?

Yes, the effect is remarkably consistent. It is true in men and women, in children as well as adults, in people who are well, or who have illnesses already, in people in the 1960s or this millennium, in people with a high fat intake, and people with quite a low fat intake at baseline, and over several years.

Is it the same for all types of fat?

This effect of fat on weight was seen when we looked at the total amount of fat people eat, not at specific types of fat. So the effect of fat on weight is including ALL types of fat.

However, we have good evidence that cutting down on one type of fat -saturated fat (fat from animal sources like milk, cheese and meat) -reduces our risk of heart disease and stroke by 14%¹. So if we are going to reduce the amount of fat we eat it makes sense to cut down specifically on saturated fats, so that we get BOTH benefits (on weight, and on heart disease and stroke).

I thought there were good and bad types of fat!?

Probably not for our weight, but there are for heart disease and stroke (see above). To get BOTH benefits cut down on more on saturated fats, like the fat in cheese, milk and meat.

How important is 1.6kg?

Long term it is good for our health to reduce weight by 1.6kg (3.5lb), and keep it down. If the whole population were to reduce their weight by 1.6kg then this would reduce the risk of death by 3%, an important effect. Keeping our weight down reduces our risk of problems such as diabetes, some forms of arthritis, some cancers, high blood pressure, respiratory problems and infertility.

So is it the amount of fat, or the type of fat, that is most important for good health?

Cutting down on fat, by targeting saturated fat, will get us the most benefit – to our weight and other health.

So is this all I need to do for health – cut down on fat?

Cutting down on fat, specifically on saturated fat, is a great start. Being physically active, not smoking, drinking alcohol in moderation, and eating plenty of fruit and vegetables, and drinking plenty of fluid also help to keep us healthy.

Can people reduce fat long term?

Yes, most of the people in the studies that were part of this systematic review were included in trials for 6 or 7 years before their weight was measured – we can stick with eating less fat long term.

I have heard scientists say that low fat diets have caused the obesity epidemic – how can low fat result in weight loss?

¹ Hooper L, Summerbell CD, Thompson R, Sills D, Roberts FG, Moore H, Davey Smith G. Reduced or modified dietary fat for preventing cardiovascular disease. Cochrane Database of Systematic Reviews 2011, Issue 7. Art. No.: CD002137. DOI: 10.1002/14651858.CD002137.pub2.

If you look at the US you see that people started eating more food, and more sugary foods between 1971 and 2000 (when obesity levels rose from 15 to 31%). The amount of fat they ate didn't change much, but they ate much more energy from increased portion sizes, more salty snacks, soft drinks and pizza². Although people didn't reduce the amount of fat they ate, the proportion of calories from fat fell (as they ate more calories). This made it possible for observers to suggest that the fall in the percentage of energy from fat had caused the weight rise (as the time trend seemed confirmatory). However, we know that just because two things happen at the same time, doesn't mean that one caused the other.

Conversely, the evidence that cutting down on the amount of fat we eat causes a fall in weight is very strong. It is a consistent message from 33 long term randomised controlled trials (the best scientific way of testing cause and effect) conducted in men and women, on several continents, for up to 11 years duration, in people who were well and those who had chronic illness. Evidence in children confirms the adult evidence.

When we cut down on the amount of fat we eat, we can eat a bit more starchy food (bread, pasta, potatoes, rice, cereals) to make up the energy, but need to make sure that we don't eat more food overall. This will still work to help us lose weight.

What sort of research method did you use?

We carried out a systematic review and meta-analysis of all the existing randomised controlled trials and cohort studies. This is the gold-standard research for understanding the effectiveness of medication or effects of changes in lifestyle (such as the effect of eating less fat on our weight). We searched for all the high quality research that has been conducted that can help to answer our question, then used it to get an overview of the effects. All of the research tells us the same thing – eating less fat leads to lower weight. By looking at the trends between individual studies we can see that studies where people cut down more on fat they lost more weight.

² Wright JD, Kennedy-Stephenson J, Wang CY, McDowell MA, Johnson CL. Trends in Intake of Energy and Macronutrients – United States, 1971-2000. National Centre for Health Statistics CDC, accessed 4th Dec 2012.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5304a3.htm>