Obesity in Europe – A fat price to pay?

What is obesity?
Obesity is a condition in which abnormal or excessive fat accumulation in adipose tissue impairs health. It is defined in adults as having a body mass index (BMI) above 30. Obesity is one of the most visible but, until recently, most neglected public health problems. Body weight is influenced by energy intake (from food) and energy expenditure (the energy used for basal metabolism such as keeping the heart beating and for physical activity). If a person regularly consumes more energy than they use up, they will start to gain weight and eventually become overweight or obese. If a person regularly consumes less energy than they use up they will lose weight. Extra energy is stored in the body as fat.

Are there health risks associated with being obese?
Yes! Obesity is the most important dietary factor in chronic diseases such as cancer, cardiovascular disease and type 2 diabetes. Obesity causes a number of metabolic disturbances that can adversely affect an individual’s chance of suffering from other chronic diseases later in life. People who are overweight or obese are more likely to suffer from coronary heart disease, type 2 diabetes, gallstones, osteoarthritis, high blood pressure and some types of cancer. Women are more likely to have complications during and after pregnancy.

How many people in Europe are obese?
Researchers have tried to estimate the number of obese people in the EU countries, and their findings are startling. Within the 15 countries that made up the EU in 2002, an estimated 18% of men and 21% of women were obese. This varied within countries with Austria topping the list with an alarming 30% of men and 26% of women being obese. Conversely, the rates in the Scandinavian countries are low (approximately 15% of men and 16% women). Projecting current trends in the increasing numbers of Europeans who are becoming obese to 2025, a staggering 30% of men and 34% of women will be obese unless something is done to reverse the trends.

How much is this costing the EU each year?
The health implications of obesity cost the European economy an estimated €32.8 billion in 2002. This figure includes the costs associated with treating
the complications of obesity and lost productivity from days taken off sick. Unless something is done to stop the predicted increase in the prevalence of obesity in Europe, the consequences for both health and the economy are likely to be severe. Obesity and its related complications may end up costing the EU up to 6% of its health care budget in 2025.

What can be done to halt this alarming rise in obesity?

There is no easy solution to this problem as obesity is such a complicated disease. There are a number of different factors that affect an individual’s risk of becoming obese and so it is essential that a number of different angles are taken when tackling the problem. Yet the potential for small lifestyle changes to have an effect must not be underestimated. In most cases, obesity is the result of very gradual adult-onset weight gain (estimated as approximately 1g/d). Indeed, one researcher has commented that 90% of obesity could be abolished by walking an extra 2000 steps a day and reducing intake by 100kcals a day.

Why don’t we all just eat a bit less and exercise a bit more?

People have to be motivated to make lifestyle changes and if they do not appreciate that there is a problem, they are often not willing to cut down on food intake or exercise more, as they perceive this to have a negative effect on their quality of life. Therefore it is essential that other ways to help people change their diet and lifestyle are explored. In particular, we need to look for ways in which we can prevent the negative health effects associated with obesity such as high blood cholesterol levels.

Are there any ways to help people change their diet and lifestyle?

One option is to alter the nutrient composition of foods that are commonly consumed so that they are ‘healthier’. This way, people do not have to make radical changes to their lives and they can continue eating the foods that they are used to. There a number of ways that this can be achieved. It is possible to alter the fatty acid profile of foods such as meat or milk by changing the composition of the animal feed. This way, the amount of saturated fatty acids is reduced and the amount of mono- and polyunsaturated fatty acids, which are better for heart health, are increased. An alternative approach is to add omega 3 fatty acids to foods such as yoghurt at the final stage of the production process as this type of fatty acid can reduce the risk of coronary heart disease. Researchers are even looking into ways in which plants, such as oil seed rape, can be modified to produce the
long chain omega 3 fatty acids that are currently only available from algal or oily fish sources.

**Are modified foods very expensive to manufacture?**

They can be. There are increased costs associated with producing these sorts of products for many reasons. Firstly, the producers have to keep the food separate from the conventional product as it is important that its beneficial property is maintained. This can be a costly process if new equipment needs to be purchased. Also, at the moment so few people are currently buying these modified foods (referred to as functional foods) that they are often made on much smaller-scales. Because of this, the production costs are not spread over a large consumer base as they are for more popular foods and so instead they make up a sizeable proportion of the retail price. Also, in many cases, these products require special ingredients that can be quite expensive.

**So if we have to pay extra for these foods, can we be sure that they will have a positive effect?**

Lower fat polyunsaturated spreads were one of the first of these ‘functional’ foods available and their introduction had a massive impact on the types and amounts of the various fatty acids that were consumed in the diet. Saturated fatty acid intake fell and polyunsaturated fatty acid intake increased.

Estimates have been made to predict the impact that enhancing the omega 3 fatty acid content of meat, milk and eggs have on fatty acid intakes in Europe given current consumption patterns. In the UK, for example, intakes of the beneficial long chain omega 3 fatty acids are in the region of 244mg per day. However as oily fish contribute about 131mg per day of this total, and as only about 27% of the UK population consume any oily fish, the average intake for the vast majority of the population will be only about 113mg per day. For those who consume little or no fish the intake will be as low as 46mg per day – nowhere near the UK recommended 450mg per day. Enhancing the omega 3 fatty acid content of meat, milk and eggs could increase intakes from non-fish sources by up to 200mg per day. Thus these foods, if eaten in the context of a healthy, balanced diet and lifestyle, would be expected to have a positive effect on health.
Can anything be done to increase the consumption of these foods across Europe?

The main factor that determines purchasing patterns are price and taste. The health benefits of a product are usually a lower priority. As obesity and coronary heart disease are more prevalent amongst lower income groups it’s important that the price of healthier options is within their reach, so that those who will benefit most from the foods can afford to buy them. Various options have been considered by researchers, Fry and Finley (2005) in order to achieve this. For example, one option is for the EU to introduce subsidies on these ‘healthier’ foods that cover the extra ingredient costs. This way, the food manufacturers will be able to price their products in line with the conventionally produced foods. Or alternatively the EU could mandate that all animal products available are healthier thus making the market for meats, milks and eggs a much more level paying field. In this instance the public would be picking up the bill for the increased costs, but in this scenario there would be no cheaper, less healthy option. The final option Fry and Finley (2005) suggest is that those people identified to be most at risk of obesity and other diseases could be encouraged to switch to the healthier brands by targeting subsidies directly at them. In this case, it is those who would benefit most from a dietary intervention who are receiving an economic incentive to modify their diets.

Have initiatives like this been carried out before and have they been successful?

Many functional foods are available in supermarkets across Europe but are often sold at higher prices because of the reasons discussed above. In order to encourage those at an increased risk of cardiovascular disease, private health insurance companies in France and the Netherlands have devised incentives for their members to buy phytosterol spreads. These spreads have been shown to reduce the levels of LDL cholesterol (the bad type) in the blood and thus reduce the risk of developing heart disease. In this instance, a targeted portion of the population are being encouraged to switch to a healthier spread in the hope that it will reduce the chances of them later having to receive treatment for heart problems.

Further information

This work makes up part of an EU-funded project called Lipgene. This 5 year project which started in 2004, is taking a detailed look at many issues surrounding the increasing prevalence of obesity and the metabolic syndrome in Europe. Researchers are investigating ways in which foods can be modified
to have a healthier fatty acid profile, as well as the effects that these foods have on disease outcomes and risk factors. The economic implications of obesity and treatment options have also been considered, for more information see Fry J and Finley W (2005) The prevalence and costs of obesity in the EU. Proceedings of the Nutrition Society 64: 359-362.

Anyone interested in finding out more about this project should visit the website, http://www.lipgene.tcd.ie or www.nutrition.org.uk/lipgene.htm, where you will find a facility for registering to receive periodic project updates.