

Obesity an addiction

New research reveals that overeating in obese people is the same as drug addiction

People have spoken for years now about 'comfort eating'. Many of us are familiar with the idea of someone sitting at home on their own with a tub of ice-cream for comfort; it's the kind of thing you see in sitcoms. Most of us know what it's like to enjoy food other than when we're particularly hungry, like eating popcorn at the cinema or having a bag of nuts or crisps with a drink. For some people though, 'comfort eating' goes beyond the boundaries that many of us would cross and the amount of food consumed can become a serious problem leading to weight issues (including obesity) and other health problems.

Overweight people have often been labeled as greedy, but new research shows that overeating in obese people is akin to drug addiction and that their desire to overeat is controlled by the same part of the brain that controls cravings in drug addicts.

The results of work carried out by a team of U.S. scientists were published in the Proceedings of the National Academy of Sciences in October 2006. According to the research team, this new understanding of how the body and brain connect to each other, and how this is tied to obesity could help to tackle the problem in the near future. The team say that they were able to simulate the process that takes place when the stomach is full, and for the first time they could see the pathway from the stomach to the brain that turns off the brains desire to continue eating.

The human body's way of regulating food intake is a complex one and as a result has been little understood

until recently. When we are hungry our body releases certain hormones such a ghrelin and these hormones encourage us to eat. When we have eaten enough food, a mix of electrical signals and hormones are sent to the brain from the stomach to tell us to stop eating. A nerve called the vagus nerve controls the electrical signals, and this is what controls the movement of food through our digestive system.

The research that was done took seven obese volunteers, and monitored them over a period of up to two years, analysing their brain patterns. They were each fitted with a device called an implantable gastric stimulator (IGS), which is a pacemaker-like device that stimulates the vagus nerve and causes the brain to think that the stomach is full. They have been successfully used in obese people to reduce their appetite.

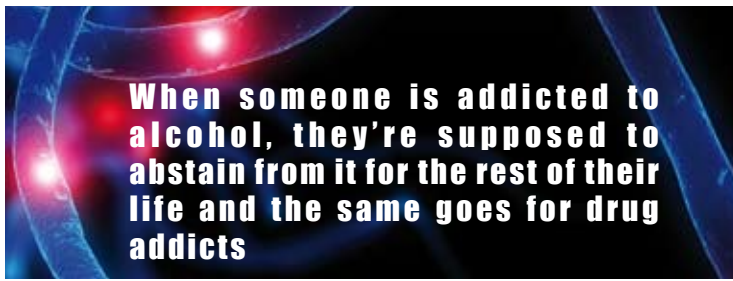
A scanner called a positron emission tomography, or PET, scanner was used to measure the brain activity of each volunteer when the gastric stimulator was switched on and when it was switched off. The researchers found that the implantable gastric stimulators caused significant changes in metabolism in parts of the brain that are associated with emotions and this effectively stopped the volunteers desire to eat.

Basically, when the implant was turned on and the volunteers felt full, the brain scans showed an increased

metabolism in an area of the brain called the hippocampus, which is associated with learning, memory and emotional behaviour. There was also increased activity in the parts of the brain known as the orbitofrontal cortex and the striatum.

These findings are important because research shows that overweight people often find it hard to get support when they want to lose weight. This could often be due to lack of understanding of circumstances that lead to weight problems. There are countless diets out there and there are also weight-loss groups like Weight Watchers that are designed to help people, but many people with weight problems feel it's not that simple and that their problem is about more than just a little self control. This research could help many people who could effectively have a 'food addiction'.

This would make a big impact on how such cases could be treated. It is worth noting that when someone is addicted to alcohol, they're supposed to abstain from it for the rest of their life and the same goes for drug addicts. The problem is clear then, that if someone is addicted to food, they still have to eat something, and so the discipline required to keep things in moderation



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would be very difficult given that they would be constantly tempted with the thing that is the problem.

Dr Gene-Jack Wang, who lead the research team at the Brookhaven National Laboratory, New York, said: "As soon as we saw these scans, immediately it reminded me of what we had studied in drug abuse when people were under a craving situation - the same areas in the brain lit up." Dr Wang said that there were commonalities in the parts of the brain that are associated with food intake and compulsive drug intake. Other researchers have pointed out that this should not be a surprise, as it is in our survival interests to be addicted to food. All that is needed is a way to moderate the intake for those who have a problem.

Sources: Various