

Anti-obesity drugs unlikely to provide lasting benefit according to scientists

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15 March 2010: Scientists at the University of Liverpool argue that anti-obesity drugs fail to provide lasting benefits for health and wellbeing because they tackle the biological consequences of obesity, and not the important psychological causes of overconsumption and weight gain.

Dr Jason Halford, Reader in Appetite and Obesity at the University of Liverpool, points out that anti-obesity drug developers focus primarily on weight loss as their end goal, and do not take into consideration the motivational and behavioural factors that most commonly cause obesity. Obesity typically results from eating too much food combined with too sedentary a lifestyle. However, [obese people](#) may also have a complicated psychological relationship with food that makes it difficult for them to control their appetite sufficiently to manage their weight.

Obesity is one of the most serious public health problems of the 21st century and, according to Government predictions, is set to affect half of all men and more than a third of all women in the UK by 2025. Obesity is not only associated with a number of serious health problems, including [type 2 diabetes](#), heart disease and reduced life expectancy, but also has a knock-on effect for the health service, industry, education and government - with a multi-billion pound cost to the economy.

Dr Halford said, "Anti-obesity drugs haven't successfully tackled the wider issues of obesity because they've been focused predominantly on weight loss. Obesity is the result of many motivational factors that have evolved to encourage us to eat, not least our susceptibility to the

attractions of food and the pleasures of eating energy rich foods - factors which are, of course, all too effectively exploited by [food manufacturers](#)

"As psychological factors are critical to the development of obesity, drug companies should take them into consideration when designing new drug therapies. We've learned a great deal about the neurochemical systems that govern processes like the wanting and liking of food, and it's time to exploit that knowledge to help people manage their eating behaviour."

Anti-obesity drugs can work in different ways; for example, by suppressing appetite, altering metabolism or inhibiting the absorption of calories. There have, however, been serious concerns over the safety of the most commonly prescribed drugs, leading to the recent withdrawal of the European market leaders Sibutramine (Reductil, Meridia) and Rimonabant (Accomplia). As a consequence of these setbacks, there are few anti-obesity drugs in development.

Dr Halford and his co-authors explain that there are motivational, emotional and behavioural traits which are common to the obese. Typically, obese people have a heightened desire to eat, which is easily provoked by environmental factors such as food adverts. They display a pre-occupation with food and have a heightened preference for high fat and high sugar foods. Obese people also tend to eating faster and take larger mouthfuls which together result in them eating bigger meals.

However, despite eating larger than normal portions, obese people are less likely to feel full after eating, partly because of the energy-dense foods they prefer have a reduced impact on gastrointestinal hormone signals that help promote feelings of satisfaction and fullness. Consequently, there are a number of reasons why obese people have enduring, and easily provoked, feelings of excessive hunger which culminate in overconsumption.

Professor Tim Kirkham, an authority on the biopsychology of appetite at the University of Liverpool, said: "Novel, effective anti-obesity treatments must address these different factors. We need to identify drugs that can selectively affect the desire to eat, the enjoyment of eating, fullness and satisfaction. Interventions designed specifically to modulate these processes could help reduce the aversive experience of dieting, and maximize an individual's capacity to successfully gain control over their appetite. Currently, we know little about the behavioural effects of anti-obesity drugs under development, and so we have little indication whether these new treatment address the underlying causes of obesity."

The research is published in *Nature Reviews Endocrinology*.

Provided by University of Liverpool

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