

'Gamechanger' drug for treating obesity cuts body weight by 20%

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One third (35%) of people who took a new drug for treating obesity lost more than one-fifth (greater than or equal to 20%) of their total body weight, according to a major global study involving UCL researchers.

The findings from the large-scale international trial, published today in the *New England Journal for Medicine*, are being hailed as a "gamechanger" for improving the health of people with obesity and could play a major part in helping the UK to reduce the impact of diseases, such as COVID-19.

The drug, semaglutide, works by hijacking the body's own appetite regulating system in the brain leading to reduced hunger and calorie intake.

Rachel Batterham, Professor of Obesity, Diabetes and Endocrinology who leads the Centre for Obesity Research at UCL and the UCLH Centre for Weight Management, is one of the principal authors on the paper which involved almost 2,000 people in 16 countries.

Professor Batterham (UCL Medicine) said: "The findings of this study represent a major breakthrough for improving the health of people with obesity. Three quarters (75%) of people who received semaglutide 2.4mg lost more than 10% of their body weight and more than one-third lost more than 20%. No other drug has come close to producing this level of weight loss—this really is a gamechanger. For the first time, people can achieve through drugs what was only possible through weight-loss surgery."

Professor Batterham added: "The impact of obesity on health has been brought into sharp focus by COVID-19 where obesity markedly increases the risk of dying from the virus, as well as increasing the risk of many life-limiting serious diseases including heart disease, type 2 diabetes, liver disease and certain types of cancers. This drug could have major implications for UK health policy for years to come."

The average participant in the trial lost 15.3kg (nearly 3 stone); this was accompanied by reductions in risk factors for heart disease and diabetes,

such as waist circumference, [blood fats](#), blood sugar and blood pressure and reported improvements in their overall quality of life.

The trial's UK Chief Investigator, Professor John Wilding (University of Liverpool) said: "This is a significant advance in the treatment of obesity. Semaglutide is already approved and used clinically at a lower dose for treatment of diabetes, so as doctors we are already familiar with its use. For me this is particularly exciting as I was involved in very early studies of GLP1 (when I worked at the Hammersmith Hospital in the 1990s we were the first to show in laboratory studies that GLP1 affected appetite), so it is good to see this translated into an effective treatment for people with obesity."

With evidence from this trial, semaglutide has been submitted for regulatory approval as a treatment for obesity to the National Institute of Clinical Excellence (NICE), the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA).

About the trial

The Phase III 'STEP' randomised controlled trial involved 1,961 adults who were either overweight or had [obesity](#) (average weight 105kg/16.5 stone; body mass index 38kg/m²), and took place at 129 sites in 16 countries across Asia, Europe, North America, and South America.

Participants took a 2.4mg dose of semaglutide (or matching placebo) weekly via subcutaneously (under the skin) injection; similar to the way people with diabetes inject insulin. Overall, 94.3% of participants completed the 68-week study, which started in autumn 2018.

Those taking part also received individual face-to-face or phone counselling sessions from registered dietitians every four weeks to help them adhere to the reduced-calorie diet and increased physical activity,

providing guidance, behavioural strategies and motivation. Additionally, participants received incentives such as kettle bells or food scales to mark progress and milestones.

In those taking semaglutide, the average weight loss was 15.3kg (nearly three stone), with a reduction in BMI of -5.54. The placebo group observed an average weight loss of 2.6kg (0.4 stone) with a reduction in BMI of -0.92.

Those who had taken semaglutide also saw reductions in risk factors for heart disease and diabetes, such as waist circumference, blood fats, [blood sugar](#) and blood pressure and reported improvements in their overall quality of life.

About the drug

Semaglutide is clinically approved to be used for patients with type 2 diabetes, though is typically prescribed in much lower doses of 1mg.

The drug possesses a compound structurally similar to (and mimics) the human glucagon-like peptide-1 (GLP-1) hormone, which is released into the blood from the gut after meals.

GLP-1 induces weight loss by reducing hunger, increasing feelings of fullness and thereby helping people eat less and reduce their [calorie intake](#).

While the STEP study has been through Phase I and II trials, assessing the 2.4mg doses for safety, in the Phase III trial some participants reported side effects from the drug including mild-to-moderate nausea and diarrhoea that were transient and generally resolved without permanent discontinuation from the study.

Provided by University College London

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