Hormone research could have hopeful implications for both underweight and overweight people

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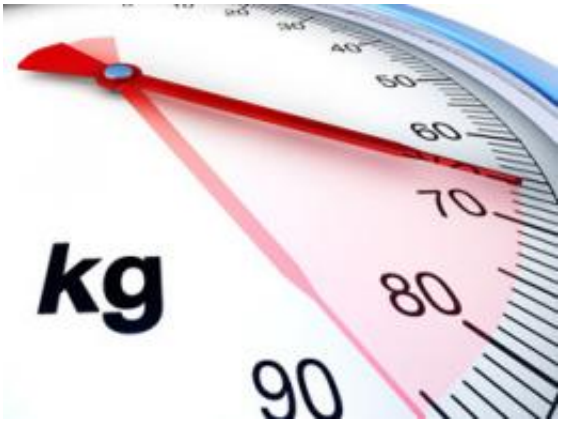

The appetite is controlled via a complex system that involves the hypothalamus, the brainstem and the cerebral cortex. Hormones also have an important role to play in this system. Researchers from the Clinical Division of Endocrinology and Metabolism in the MedUni Vienna's University Department of Internal Medicine III have demonstrated that ghrelin, a hormone in the gastrointestinal tract, is regulated differently in fat and thin people, thereby contributing to deviations from the individual's ideal weight.

The team led by Anton Luger, Head of the Clinical Division of

Endocrinology and Metabolism at the MedUni Vienna, is investigating the processes involved with appetite control and possible factors that can influence them. Substances that have a direct effect such as ghrelin, and which are termed agonists, boost the appetite-stimulating effect. This may help encourage extremely thin and weak individuals such as patients with cancer, the elderly and patients with heart failure to eat. Substances that work on the receptor as antagonists, i.e. which counteract ghrelin and therefore block this appetite-stimulating effect, could reduce feelings of hunger in patients who are overweight.

"Our research, which sheds light on the mechanisms that regulate appetite, could represent a step towards the development of a substance that helps overweight people to control their body weight more effectively and also help very thin people to develop an appetite," says Luger. Ghrelin and other appetite regulators also simultaneously influence the metabolism of energy, thereby having a dual effect on body weight.

Anton Luger's team is currently working on trying to determine which areas of the brain are activated when people experience appetite, and how these can be influenced. The initial results will be presented at the 15th Congress of the European Neuroendocrine Association (ENEA). The world's largest congress for neuroendocrinology is being held at the Hofburg in Vienna from the 12th to the 15th of September. One of the speakers is Jeffrey Friedman, the discoverer of leptin, a hormone in fatty tissue that plays an important role in regulating body weight and the metabolism of energy. The event is being held under the aegis of the MedUni Vienna. Anton Luger is president of the congress.

Provided by Medical University of Vienna