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Proceedings Paper:

Redpath, T, Price, RK, Finlayson, G orcid.org/0000-0002-5620-2256 et al. (5 more authors) (2018) Changes in implicit wanting and explicit liking and wanting for food after gastric bypass surgery. In: Proceedings of the Nutrition Society. Irish Section Meeting, 20-22 Jun 2018 Cambridge University Press , E96.

<https://doi.org/10.1017/S0029665118001003>

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Irish Section Meeting, 20–22 June 2018, Targeted approaches to tackling current nutritional issues

Changes in implicit wanting and explicit liking and wanting for food after gastric bypass surgery

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Gastric bypass surgery (GB) is a safe, effective treatment for morbid obesity⁽¹⁾. Aside from reduced energy consumption, patients report changes in food preferences and appetite that may contribute to weight loss post-surgery^(2,3). Food preferences can be separated into two constructs; 'liking' (pleasure) and 'wanting' (motivation/desire to eat)⁽⁴⁾ which may be influenced by physiological and psychological changes post-surgery. The aim of this study was to investigate changes in food preferences ('liking' and 'wanting') in GB patients from pre- to post-surgery, compared to weight-stable controls.

Nineteen patients (45.2 ± 12.5 years, Body Mass Index (BMI): 45.3 ± 6.4 kg/m²) and sixteen time-matched controls (44.7 ± 15.6 years, BMI: 25 ± 4.4 kg/m²) completed the computer-based Leeds Food Preference Questionnaire, which assesses preferences for sweet/savoury foods and low-fat/high-fat foods⁽⁵⁾, at baseline (1-month pre-surgery) and 3-months post-surgery. Explicit liking and wanting (conscious hedonic feelings/desire to consume) were measured using Visual Analogue Scales, whilst implicit wanting (unconscious motivational expression) was measured using food selection and reaction times in a forced-choice task.

There were no significant differences in food preferences between patients and controls at baseline. BMI for controls remained stable (+0.1 ± 1.3 kg/m², p = 0.73), whilst BMI in patients significantly decreased (−8.3 ± 2.7 kg/m², p = <0.01). GB patients expressed a significant decrease in the explicit liking (F(1,33) = 10.42, p = 0.03), explicit wanting (F(1,33) = 5.76, p = 0.02) and implicit wanting (F(1,33) = 4.92, p = 0.03) for sweet foods after surgery. However, there were no significant changes in preferences for high-fat foods in patients from pre to post-surgery. There were no significant changes in preferences for controls for sweet or high-fat foods.

In conclusion, patients express a significant decrease in preferences for sweet foods post-surgery. As changes in implicit unconscious motivational expression of food preferences may be more predictive of actual food consumption⁽⁶⁾ these findings highlight a possible mechanism responsible for the success of GB as an obesity treatment.

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