Is Anorexia a Choice?

For clinicians working with patients struggling with eating disorders, we know all too well how difficult these disorders are to treat. Sometimes we wonder in frustration why our patients don't make better choices. But how much control do patients with eating disorders really have over their food choices? A new study uses brain-imaging technology to investigate exactly what goes on in a patients' head when they make food choices.

Foerde, Steinglass, Shohamy, and Walsh (2015) conceptualize anorexia nervosa as an eating disorder characterized by repeated maladaptive food choices that result in starvation accompanied by substantial morbidity and mortality. It has been traditionally thought that these maladaptive food choices represent goal-oriented weight loss behaviors. However, there comes a point in the course of the disease when the behaviors shift from *wanting* to *needing*. Despite a desire to regain health and stop restricting food intake, patients continue to engage in restricting behaviors. In treatment, they have difficulty changing their food choices and, given the opportunity, will continue to choose low-fat and low-calorie foods.

The research by Foerde et al., published in *Nature Neuroscience,* used functional magnetic resonance imaging (fMRI) to compare blood oxygen level dependent (BOLD) activity among a group of 21 women newly hospitalized for the treatment of anorexia nervosa and a group of 21 healthy controls. Participants engaged in a food choice task while their brain activity was observed using fMRI scanners. Results indicated that in participants with anorexia nervosa (but not in healthy controls), food choices were related to neural activity in the dorsal striatum, a part of the brain which has a critical role in the establishment and expression of action control and learned automatic behaviors. This indicates that the food "choices" that patients with anorexia nervosa make may be habitual automatic behaviors rather than true choices.

While these behaviors may be entrenched, it is possible to change these automatic habitual patterns through treatment focusing on changing the way that the brain processes food decisions. Mindfulness interventions may help disrupt the automatic brain response, as well as changing rituals and patterns around eating. Conceptualizing anorexic behaviors as automatic brain processes rather than willful choices may help loved ones (and clinicians) with feelings of frustration towards the patient that surround the often intractable symptoms of eating disorders.

Reference: Foerde K, Steinglass J, Shohamy D, and Walsh T (2015). Neural Mechanisms Supporting Maladaptive Food Choices in Anorexia Nervosa. *Nature Neuroscience*, Advance Online Publication.