

## Food addiction or food craving?

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Some people believe that foods high in fat or sugar might be addictive, thereby driving consumers to overeating and obesity. Does it mean that foods should be regarded in the same way as alcohol or cigarettes? Or is it that people confuse the terms “addiction”, “craving” and “eating disorders”?

### Why do some people talk about “addiction” in the context of food consumption?

Addiction is characterised by the compulsion to use a substance, uncontrolled consumption, and the existence of withdrawal symptoms (such as anxiety and irritability) when access to the substance is prevented. People suffering from eating disorders such as ‘binge eating’, bulimia nervosa and anorexia nervosa tend to display these symptoms, suggesting similarities between how the body reacts to drug use and compulsive eating.

Common pathways in the brain are thought to be responsible for the sensation of pleasure derived from food intake and drug use. For example, studies with laboratory rats have shown that repeated, excessive intake of sugar can sensitise brain receptors to dopamine (a substance produced in the brain when we experience pleasure) in a similar way to the abuse of illicit drugs. Studies in people using brain neuroimaging techniques, which enable imaging the structure and function of the brain, also indicate similarities between physiological responses to anticipation of palatable food and that of drugs of abuse – for example, dopamine is released in the same brain areas.

### The case against “food addiction”

Despite these commonalities between eating and drug use, the vast majority of cases classified as “food addiction” should not be viewed as addictive behaviour. Eating is a complex behaviour involving many different hormones and systems in the body, not just the pleasure/reward system. Recent research has shown some differences in the changes produced in several neurotransmitters by drugs and the intense compulsion for food.<sup>1</sup> Besides, virtually every pleasure we encounter – beauty, music, sex, even exercise – is associated with surges of dopamine similar to those caused by a meal high in fat. But we call these pleasures, not addictions, and academics have proposed alternative explanations.

The strong desire for a pleasurable food (such as chocolate) conflicts with the culturally-imposed need to restrict intake, making the desire for the food more pronounced and to be interpreted as an addiction (e.g. “chocolism”). It could also be that in some individuals, there are differences in how the brain processes the eating stimuli that are similar to addictive stimuli, resulting in stronger drives to consume different amounts or types of foods.

### Food cravings and eating disorders

The term “food craving” is often more appropriate than “food addiction”. It is "an intense desire to consume a particular food or food type that is difficult to resist." Actually, food cravings are common. Almost all women and most men experience some sort of food craving at one point in their lives. The most often reported cravings are for chocolate (40% of women) or, more generally, for foods high in fat and/or sugar or high in carbohydrates.

Food cravings are significant because they may play a role in excessive eating observed in binge eating, bulimia and obesity, although the question remains open. Various theories exist to explain the relationship between food cravings and eating disorders; depending on the authors, they emphasise physiological homeostasis, learning mechanisms involving sensory aspects of food, or other psychological principles related to emotions. For example, it has been suggested that individuals ingest carbohydrates in an effort to elevate mood – the underlying mechanism is an increase in brain serotonin (a substance that plays an important role in the regulation of mood and appetite). Similarly, it has been suggested that psycho-active substances in chocolate cause the craving, but research shows that sensory properties appear to be the most important determinant of the desire for chocolate.

## What does this mean for most people?

Even if the term ‘addiction’ is inappropriate, it focuses the mind on an important aspect of healthy eating behaviour – the ability to maintain control over one’s diet.

While exercise and healthy eating habits are the well-proven routes to good health in nearly all people, current research from neuroscience and new findings that the most potent brain circuit known to control food intake also regulates peripheral lipid metabolism may help health professionals to better support people who find their eating habits at odds with their intentions.<sup>2</sup>

## References

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