

During weight loss treatment, reductions in the frequency of consuming certain foods resulted in decreased cravings for those foods.

— John W Apolzan and team

*Food cravings ruin health because they are triggered by external cues rather than genuine demands of the body. Cultural and psychological factors also aid craving. Again, gut bacteria provoke craving to suit their interests rather than that of the body*

# DUMP CRAVINGS

## Mystery, menace or a malfunction

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DR HEMALATHA R.

Food craving is usually described as a strong motivation or intense desire or urge to eat a specific food. Often, craving is also referred to as an urge to eat something even when there is no metabolic need. It is interesting to note that many of the foods frequently craved are high in carbohydrate and fats and mostly foods which are processed. Food cravings have often been associated with high body mass index (BMI) and associated conditions which are predominant risk factors for non-communicable diseases. Therefore, there is a surge in the interest to explore the nutritional and health impacts of food cravings. Are food cravings really a malfunction or a menace? What's the mystery behind them?

### WHAT CAUSES FOOD CRAVINGS?

The true picture of food craving is complex and there are numerous theories about it. The underlying causes of craving may be multiple — including psychological, conditioning, emotional, sensory and food imaging, to name a few. One of the most researched factors as a possible trigger for food cravings is 'mood'. Depressed and stressed individuals or sleep deprived individuals can also suffer cravings and end up in binge eating.

The addiction literature focused considerable attention on the relationship between cravings and the exposure to a variety of external cues, such as the sight and thought of foods (like sweets, snacks, alcohol). Cravings have also been depicted as seasonal affective disorders, as some people experience increased cravings for sweet carbohydrate and fat-rich foods as winter approaches.

As is known our gut has a varied species of microbes. These microbes are constantly under selective pressure to increase their fitness and research suggests they could be manipulating the host eating behaviour. Microbes could constantly look for foods that they need to thrive on or could demand the foods that suppress their competitors. These activities of microbes could end up prompting the host individuals to opt for certain foods or even crave them. For instance, sugar/sweet craving can increase with inflammation promoting gut bacteria, which are unhealthy. In contrast, National Institute of Nutrition studies have shown that high fat diets and high carbohydrate diets alter gut microbiota which may have an effect on neuro transmitters that could in turn affect cognition and mood. How this can help prevent craving is yet to be established.

### ARE THE CRAVINGS FOR SAME FOODS CAUSED BY SAME FACTORS?

Craving the same food could have different mechanisms in different individuals and at different times. Craving a particular food, say potato wafers, could be caused by the perception that these are often depicted as forbidden foods (unhealthy/junk foods). Attempts to restrain their eating could trigger increased food cravings.

Studies also show that diet composition and macronutrient intake regulation also play a role in craving sweet-tasting, palatable foods. It has also been observed by some researchers that preference for a particular macronutrient is influenced by the prior macronutrient composition of

the diet. If a specific appetite for a particular macronutrient does exist then removing that macronutrient from the diet should cause a selective subsequent increase in the consumption of, and possibly in susceptible individuals' "craving" foods that are rich in that macronutrient.

### CAN CRAVING BE MEASURED?

Scientists around the globe have tried out many behavioural methods to measure craving, the most common approach appears to be self-reporting of participants about their craving a pre-determined list of foods. Studies show that the highly craved foods are categorised into four types — high-fat foods, sweets, starchy carbohydrate foods (like noodles, potato chips) and fast-foods.

### WHAT IS IT IN INDIA?

There are hardly any systematic scientific studies. The Indian economic and epidemiologic transition is reflected in the dietary habits of Indians, where a shift from home-made nutritious foods to easily accessible and palatable processed food is visible. Increasing dietary diversity is the current priority for Indians, and currently high amounts of starch, fat and little amounts of fibre and protein are consumed across all age and gender groups. The consumption of monotonous diets has also been associated with craving carbohydrate and fat rich foods.

In addition, marketing foods online with attractive discounts makes individuals to crave more. It is an interesting observation that cravings for carbohydrate and fat rich foods does not occur during regular mealtimes; instead, they primarily occur during snack time. It has also been seen that nocturnal sleep is associated with increased food cravings and thereby making the BPO and shift employees the most affected and vulnerable segments of the population.

### STRATEGIES TO REDUCE FOOD CRAVINGS - DO THEY WORK?

To date, a handful of studies have focused on strategies to reduce food cravings. Studies have generally shown that craving-reduction strategies, such as thought suppression (trying not to think about the craved food) or cue-exposure response prevention (presenting an individual with the craved food but not allowing them to eat it) are not very successful.

Thus there is a need to seek new and different craving reduction techniques.

Alternatively, experts and nutritionists suggest a number of simple measures that can help keep food cravings at bay. Being physically active, drinking plenty of water, consuming micronutrient and fibre-

## MICROBE MANIPULATION

There is evidence suggesting that the trillions of bacteria in our guts can manipulate us to crave, and eat, what they need - which isn't always what our body needs. microbes are looking out for their own interests, says Athena Aktipis, assistant professor at Arizona State University's department of psychology. And they're good at doing this.

But if you eat a diet with lots of complex carbohydrates and fibre, you will cultivate a more diverse microbiome, Aktipis says. This probably means that a healthy diet, which leads to a healthy microbiome, means you crave healthy food.

rich fruits and vegetables as part of daily diet may help curb craving. Other tips include trying to consume healthy, natural and minimally processed foods when in stress, maintaining a balanced diet, maintaining mealtime and following a similar healthy diet pattern daily and small but frequent meals and eating mindfully.

(The author is director, National Institute of Nutrition, Hyderabad)

## THE CUES

### CULTURAL CONDITIONING

Dogs drool at the hint of food. Not just that, pets exhibit signs of craving before regular food time. If one always eats popcorn while watching favourite TV show, it's likely cravings for popcorn will increase whenever one watches it. The afternoon slump is another example of this response in practice. If you crave something sweet in the middle of the afternoon, there's a chance this craving is stronger when you're at work, says Anna Konova, director of the Addiction and Decision Neuroscience Laboratory at Rutgers University in New Jersey.

### PSYCHOLOGICAL

Food cravings are sometimes caused by the ambivalence or tension between desiring a food and wanting to control food intake. It's assumed, a study says, that women in particular resolve this by not having the food in question - which increases their chance of craving it as they're more likely to notice cues. Also negative moods can trigger more eating and, for some, become an eating binge.

## 'You are not going to crave food you never tasted'



JOHN W. APOLZAN

*It is natural to want to eat a variety of foods including those that may be less healthy. The key is just to do so in moderation in terms of amount and frequency*

### Why do we crave high-calorie foods that add to weight gain?

All foods can lead to weight gain if consumed to excess. However, more energy-dense foods do tend to lead to weight gain. Further, these items are filled with sugar and fat which are the macronutrients typically craved. Overall, chocolate tends to be the most craved food item.

### You refer to 'conditioning response' to explain food craving. But it's usual for pregnant women to crave a variety of foods and the popular notion is it may have to do with deficiencies?

Yes often with palatable food it is a conditioning response. However, there is likely a different mechanism (or mechanisms) at play for those that are malnourished and/or have deficiencies. The conditioning response would not hold true if someone was protein deficient and attempting to over-consume energy to meet their protein needs/requirements.

### Have you observed any link to craving in the ambivalence between one desiring a food and wanting to control its intake? Or the craving owes to a dilemma: to eat or not to eat?

I am not 100 per cent sure of the question. Actually

energy restriction decreases cravings. I think it is important to note that we found it is the frequency of consuming food items versus the amount that was associated with cravings (Obesity 2017).

Of course it is natural to want to eat a variety of foods including those that may be less healthy. The key is just to do so in moderation in terms of amount and frequency. Thus like much of life, it is truly about finding a happy, healthy medium.

### Would you say culture and psychology play crucial roles in triggering specific food cravings?

I think culture and psychology play rather large roles in triggering specific food cravings. You're not going to crave a food you've never tasted. Further conditioning likely occurs due to the regions culture and psychology.

### What are best possible ways to tackle craving, especially because a whole lot of lifestyle diseases are linked to reckless eating habits?

Decreasing energy intake through lifestyle interventions has been shown to be successful in reducing cravings. Nearly all weight loss diets lead to decreases in food craving. So the first would be weight loss. Secondly with conditioning model of food cravings, one would 'decondition' oneself. If someone eats a bowl of ice cream nightly during a specific TV programme then you would try and get him/her to stop the stimulus (i.e. watching the television programme). Go for a walk, go to the gym and so on.

## CUT YOUR CRAVING

Since our environment is full of cues that could tap into our cravings, such as advertising and photos on social media, overcoming them isn't so straightforward. Research has found that one of the most effective ways to curb cravings is to cut the craved food from our diet, which runs counter to the argument that we crave what we need.

