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Large intakes of sugar lead to neurochemical changes in the brain
HealthNode

Sugar Addiction Is Similar to Drug Use

Dependence on sugar also affects behavior

Researchers at the Princeton Neuroscience Institute, led by professor Bart Hoebel, have recently made public the results of their studies concerning the effects of sugar addiction in rats. They have concluded that sugar dependence leads to the same brain changes as alcohol, nicotine, or drugs addiction. More than that, the subjects' behavior presented the same pattern - an increased consumption of sugar, then withdrawal, was consequently followed by a craving period, and a relapse.

The results of this recent study could be of major future importance, as they could be used to understand eating disorders in humans. "It seems possible that the brain adaptations and behavioral signs seen in rats may occur in some individuals with binge-eating disorder or bulimia. Our work provides links between the traditionally defined substance-use disorders, such as drug addiction, and the development of abnormal desires for natural substances." said Dr. Hoebel.

The tests performed on rats clearly showed that, if the animals were used to consume sugar, depriving them of such substance led to them consuming it even more than before, when again reintroduced in their diet. Also, in the absence of sugar, rats drank increased amounts of other addictive substances, like alcohol, while their brain activity also underwent major changes. As a result, the subjects became extremely sensitive when ingesting minimal amounts of psychostimulants, which made them hyperactive, as it usually happens in case of consuming drugs.

Researchers noted that the neurochemical changes occurring were similar to those seen in the brains of rats addicted to cocaine. Bingeing on sugar, or other substances that cause addiction, leads to the increased production of a neurotransmitter called dopamine, which is related to such behavioral patterns as liking something and consequently craving for it. If sugar is taken away, the dopamine levels also drop, as in case of drugs withdrawal, followed by an anxious behavior in the subjects.

The scientists are convinced that these studies will elucidate some of the problems people face when it comes to their [diet](#) and maintaining their weight, by proving that a "sugar addict" is not just someone with a sweet tooth, but someone facing the same dangers as if they were abusing drugs.