

## Self-control impaired in type 2 diabetics

February 10 2010

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Type-2 diabetes, an increasingly common complication of obesity, is associated with poor impulse control. Researchers writing in BioMed Central's open access journal *BioPsychoSocial Medicine* suggest that neurological changes result in this inability to resist temptation, which may in turn exacerbate diabetes.

Hiroaki Kumano, from Waseda University, Japan, worked with a team of researchers to assess response inhibition, a measure of self-control, in 27 patients with type-2 diabetes and 27 healthy controls. He said, "Patients with type 2 diabetes are required to make strict daily decisions; for example, they should resist the temptation of high-fat, high-calorie food, which is frequently cued by specific people, places and events. Appropriate [behavior modification](#) thus depends on the patient's ability to inhibit impulsive thoughts and actions cued by these environmental stimuli".

In order to gauge the patients' ability to resist such [impulsive behavior](#), the researchers used a test in which participants had to quickly press a button in response to the correct signal on a computer screen, while pressing the button in response to the wrong symbol counted against their score. They found that patients with diabetes performed significantly worse at the test, suggesting that they struggled to control the impulse to press the button.

Other results showed that the inhibitory failure observed in diabetic [patients](#) was mainly explained by [cognitive impairment](#) of impulsivity control, rather than by deficits in motor performance, error monitoring

and adjustment. According to Kumano, "This suggests the possibility that the neuropsychological deficits in response inhibition may contribute to the behavioral problems leading to chronic lifestyle-related diseases, such as [type 2 diabetes](#)".

**More information:** Decreased response inhibition in middle-aged male patients with type 2 diabetes, Kaya T Ishizawa, Hiroaki Kumano, Atsushi Sato, Hiroshi Sakura and Yasuhiko Iwamoto, BioPsychoSocial Medicine (in press), [www.bpsmedicine.com/](http://www.bpsmedicine.com/)

Provided by BioMed Central

Citation: Self-control impaired in type 2 diabetics (2010, February 10) retrieved 25 April 2024 from <https://medicalxpress.com/news/2010-02-self-control-impaired-diabetics.html>

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