Abstract
Title: Comparison of high fructose corn syrup and sucrose on development of bodyweight
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**Background:** The prevalence of obesity has increased in Sweden and the diet is an important factor in this development. Sugar is one component of the diet, which in large quantities can lead to an excessive energy intake and weight gain. The major part of the sugar that is consumed through diet is added sugar as sucrose. Sucrose is the most added sugar in the world but in the US, high fructose corn syrup used equally to sucrose. These two sweeteners are the most common sources of fructose, and fructose has been associated with the increased prevalence of overweight and obesity and provides increased lipogenesis in the liver.

**Objective:** The aim of this systematic review was to examine the effect of high fructose corn syrup compared to sucrose on bodyweight development in healthy adults.

**Search strategy:** Data collection was done through searches in two databases in medicine and health; PubMed and Scopus, and also through snowball sampling. Keywords that generated relevant articles were "fructose", "sucrose", "body weight" and "body weight changes".

**Selection criteria:** The inclusion criteria of this systematic review were randomized controlled study designs (RCT), comparing high fructose corn syrup and sucrose, and which had bodyweight as outcome measure. The studies should furthermore have been made on humans, including healthy subjects over 18 years, be written in English or Swedish and the intervention period should have lasted for at least ten weeks.

**Data collection and analysis:** The included studies were examined using the SBU model for quality assessment of randomized trials. An overall assessment of the studies was then made according to the GRADE system using a modified GRADE template from the University of Gothenburg.

**Main results:** The result is based on five RCT studies all showed that there is no difference between high fructose corn syrup and sucrose in bodyweight development. Four of the five studies showed an increase in bodyweight when the entire cohort was assessed, but no difference between the groups. In the fifth study, where the aim was that participants would lose weight, all groups reduced bodyweight, but there was no significant difference between the groups.

**Conclusions:** The results showed that there is no difference between high fructose corn syrup and sucrose regard to bodyweight development in healthy adults. The strength of evidence was judged to be low (++). More research in this area is required.