Abstract

Title: Do lingonberries have an impact on the postprandial glycemic response in healthy adults?

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Background: The Metabolic Syndrome is increasing worldwide and can eventually lead to type 2 diabetes. In 2014, an article from Lund University was published where research conducted on mice showed positive metabolic effects of lingon, resulting in the hypothesis that this could be useful in the prevention/treatment of metabolic diseases in humans. Since the publication of this study, lingon has been described as a "superberry" in media, with characteristics such as stabilizing plasma glucose.

Objective: Explore, investigate and grade the scientific grounds concerning lingonberries and their postprandial effect on glycemic response in healthy adults.

Search strategy: Databases; Pubmed, Cochrane and Scopus were used to obtain articles. Last search date was performed 2017-03-24. Search terms that were used in all databases included lingon, lingonberries, lingonberry, vaccinium vitis-idaea, glycemic load, glycemic index, bloodglucose, bloodsugar, glucose, blood glucose, insulin.

Selection criteria: Studies included had to be Randomized Controlled Trial/Crossover-studies, executed on healthy adult human beings. The studies had to present data showing plasma glucose values and amount of lingonberries used in the interventions. Studies written in other languages than swedish or english were excluded as well as studies including participants diagnosed with diabetes.

Data collection and analysis: Based on the titles and abstracts of articles, 5 studies were chosen. Two studies were rejected after further audit. Remaining studies were audited using SBU’s template for Randomized Controlled Trials. One of these studies were then excluded due to low quality. Each outcome in the remaining studies were compiled and evaluated according to the GRADE-system.

Main results: The results of the studies were in unison and showed that an intake of lingonberries in the form of powder/purée/nectar together with a meal/other foods prevent rapid postprandial plasma glucose increase, thereafter a rapid decline compared to the same meal/other foods without lingon supplement. This means that lingonberries have a positive effect on glycemic response in healthy adults.

Conclusion:
There is a moderate strong scientific evidence (++++) that lingonberries in the form of powder/purée/nectar (equal to 150-400 g of fresh lingonberries) improve postprandial glycemic response in healthy adults.
Keywords: Lingonberry, vaccinium vitis-idaea, plasma glucose, insulin, glycemic response, metabolic syndrome and type 2-diabetes.