Background: Cardiovascular disease is the leading cause of mortality in the world. Overweight/obesity, hypertension, and dyslipidaemia are some of the modifiable risk factors for cardiovascular disease that are amenable to dietary change. Observational studies have shown that a diet high in fruits and vegetables is associated with a reduced risk for cardiovascular disease.

Objective: The aim of this systematic review was to investigate if there is scientific evidence that an increased intake of fruits and vegetables, without concurrent advice on energy restriction has an effect on BMI, blood pressure and HDL- and LDL- cholesterol in individuals with overweight or obesity.

Search strategy: The literature search was performed in PubMed and Cochrane with keywords and MeSH terms. The keywords that were used in different combinations were; fruit, vegetable, body mass index, blood pressure, LDL, HDL, cholesterol, weight loss, waist circumference, overweight, weight and body composition.

Selection criteria: Randomized controlled trials that investigated the effect of an increased intake of fruits and vegetables on risk factors for cardiovascular disease without concurrent advice on energy restriction. Participants should be adults over 19 years of age, have a BMI ≥ 27 kg/m² and be generally healthy. Exclusion criteria were studies that only investigated the effect of one single fruit or vegetable and studies that investigated whole dietary patterns.

Data collection and analysis: In total, three articles were included and reviewed using SBU´s quality reviewing guide for randomized trials. The quality of evidence for each outcome was weighted together using GRADE.

Main results: The results showed that increased intake of fruit and vegetables has no effect on BMI in people with overweight or obesity, but the evidence for this conclusion is moderate (+++). The results also showed strong (++++) respectively moderate (+++) evidence that increased intake of fruit and vegetables has no effect on blood pressure or LDL- and HDL- cholesterol in people with overweight or obesity.

Conclusions: Despite the result of this systematic review the authors do not think that the fruit and vegetable recommendations should be changed. Fruits and vegetables are an important part of a healthy diet that has been shown to reduce the risk of a number of chronic diseases such as cancer, diabetes mellitus type 2 and cardiovascular disease.

Keywords: Fruit, vegetable, BMI, blood pressure, LDL- and HDL- cholesterol