Abstract

Title: Changes in blood pressure by replacing regular coffee with decaffeinated coffee, in healthy, normotensive subjects

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Background Hypertension is a risk factor for developing cardiovascular disease, which is the most common cause of premature death. Contributing factors to hypertension are genetics, lifestyle and nutrition. Earlier studies have shown that coffee may increase blood pressure.

Objective To investigate the scientific basis whether replacing regular coffee with decaffeinated coffee would affect blood pressure in healthy, normotensive subjects.

Search strategy Searches have been done in databases; PubMed and Scopus in February 2012. Keywords used were: “coffee blood pressure”, ”coffee cardiovascular disease”, ”kaffe blodtryck”, ”kaffe hjärtkärlsjukdom”, ”coffee and decaffeinated coffee”, ”decaffeinated coffee and blood pressure”, ”decaffeinated coffee and cardiovascular disease” and ”exchange decaffeinated coffee”.

Selection criteria Studies with healthy, normotensive subjects, >15 years old, BMI < 30, more than one week of intervention, randomized controlled trails and human trials were included. Only trials using caffeine from coffee versus decaffeinated coffee and studies in English and Swedish were accepted. Exclusion criteria were other interventions such as weight loss, changes in diet, medications or stress tests.

Data collection and analysis Studies were selected after inclusion and exclusion criteria. They were inspected according to SBU:s “Granskningmall för randomiserad kontrollerad prövning” and quality of evidence was evaluated according to GRADE.

Main results Three studies were included. Two of them showed a significant decrease in blood pressure after changing type of coffee, systolic blodpressure 1,5-5,3 mm Hg and diastolic blodpressure 1,0 mm Hg. The third study showed no significant difference. The evidence is estimated to be moderate.

Conclusion Replacing regular coffee with decaffeinated coffee gives a significant, but small, fall in blood pressure in healthy, normotensive subjects. The evidence is estimated to be moderate (++++). There is no greater gain in changing type of coffee for these individuals.