Abstract: P433

Potato intake and risk factors for the metabolic syndrome and cardiovascular disease in a large Norwegian cohort (The HUNT Study).

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Background

Epidemiological studies are scarce and equivocal regarding evidence for associations between habitual potato intake and obesity, type 2 diabetes and cardiovascular disease (CVD). Overall potato consumption associates with measures of adiposity, however, few studies have explicitly stated the preparation method of potatoes.

Purpose

Our aim was to investigate the associations between habitual intake of boiled potatoes and components of the metabolic syndrome and CVD risk factors in a large Norwegian population.

Methods

We included 49,932 participants in the third survey of the Nord-Trøndelag Health Study, Norway (HUNT3, 2006-2008). The participants answered questions about their habitual intake of various food groups, and our primary exposure variable was the frequency of boiled potato intake, as assessed by the question "How often do you normally eat boiled potatoes?" We categorised potato intake into four frequencies; 1) < once/week, 2) 1-3 times/week, 3) 4-6 times/week, and 4) = once/day. We estimated the mean difference in BMI, waist circumference (WC), systolic and diastolic blood pressure, total cholesterol, triglycerides and HDL cholesterol according to potato consumption, adjusted for age, sex, CVD, physical activity, smoking, alcohol and intake of vegetables and pasta/rice. We also estimated the adjusted odds ratio (OR) for adverse levels of the above-mentioned CVD risk factors according to potato consumption.

Results

Compared to individuals who consumed potatoes < once/week, those with potato intake 4-6 times/week had a 0.4 (95% confidence interval [CI], 0.2-0.6) kg/m² higher BMI and a 1.3 (95% CI, 0.8-1.8) cm higher WC. The OR for having a BMI =25 kg/m² was 1.20 (95% CI, 1.09-1.32) in individuals who consumed potatoes 4-6 times/week, compared to those eating potatoes < once/week, whereas the corresponding OR for high WC (> 88 cm for women/ > 102 cm for men) was 1.23 (95% CI, 1.12-1.36). Individuals who consumed potatoes 4-6 times/week had 0.10 (95% CI, 0.05-0.15) mmol/L higher total cholesterol than those who consumed potatoes < once/week and an OR of 1.14 (95% CI, 1.07-1.37) for total cholesterol =6 mmol/L. They also had an OR of 1.24 (95% CI, 1.13-1.27) for triglycerides =1.7 mmol/L compared to those eating potatoes < once/week. Compared to individuals who consumed potatoes < once/week, those who consumed potatoes 4-6 times/week and = once/day had an OR for the metabolic syndrome of 1.21 (95% CI, 1.07-1.37) and 1.19 (1.05-1.36), respectively, whereas those who consumed potatoes 1-3 times/week had an OR of 1.09 (95%
Conclusions We observed associations between habitual consumption of boiled potatoes and adverse levels of some, but not all, components of the metabolic syndrome and CVD risk factors. Since this was a cross-sectional study, we are not able to determine any cause-effect and future studies should assess the longitudinal associations between the intake of potatoes and CVD risk.