RED MEAT AND CARDIOVASCULAR DISEASE RISK

Total red meat intake of ≥0.5 servings/d does not negatively influence cardiovascular disease risk factors: a systemically searched meta-analysis of randomized controlled trials. O'Connor et al. The American Journal of Clinical Nutrition

OBJECTIVE

Assess the effects of consuming ≥0.5 or <0.5 servings of total red meat/d on cardiovascular disease (CVD) risk factors [blood total cholesterol (TC), LDL cholesterol, HDL cholesterol, triglycerides, ratio of TC to HDL cholesterol (TC:HDL), and systolic and diastolic blood pressures (SBP and DBP, respectively)].

STUDY DESIGN AND SETTING

A meta-analysis of randomized controlled trials (RCTs). Nine hundred and forty-five studies from PubMed, Cochrane Library and Scopus databases were independently screened. Studies were included if they used an RCT study design, subjects were aged ≥19 y, consumption of total red meat/d was ≥0.5 serving compared to <0.5 servings, and ≥1 CVD risk factor was reported as a dependent variable. A total of 24 qualified RCTs were extracted and included in the analysis.

RESULTS

There was a decrease from pre- to post-intervention values of TC, LDL cholesterol, HDL cholesterol, TC:HDL, triglycerides, and DBP, but not SBP, (P < 0.05) in both groups.

There were no differences (P > 0.05) in post-intervention values between the groups who consumed ≥ or <0.5 servings of total red meat/d for any of the dependent variables.

- -0.01 mmol/L (-0.08, 0.06 mmol/L) for TC
- 0.02 mmol/L (-0.05, 0.08 mmol/L) for LDL cholesterol
- 0.03 mmol/L (-0.01, 0.07 mmol/L) for HDL cholesterol
- 0.04 mmol/L (-0.02, 0.10 mmol/L) for triglycerides
- -0.08 mm Hg (-0.26, 0.11 mm Hg) for TC:HDL
- -1.0 mm Hg (-2.4, 0.78 mmHg) for SBP
- 0.1 mm Hg (-1.2, 1.5 mm Hg) for DBP

CONCLUSIONS

- There was no indication that consumption of progressively higher red meat intake influenced CVD risk factors.
- Results are generalizable across a variety of populations, dietary patterns, and types of red meat.
- Further research is needed to reconcile the apparent disconnect between RCT and observation-based conclusions.