



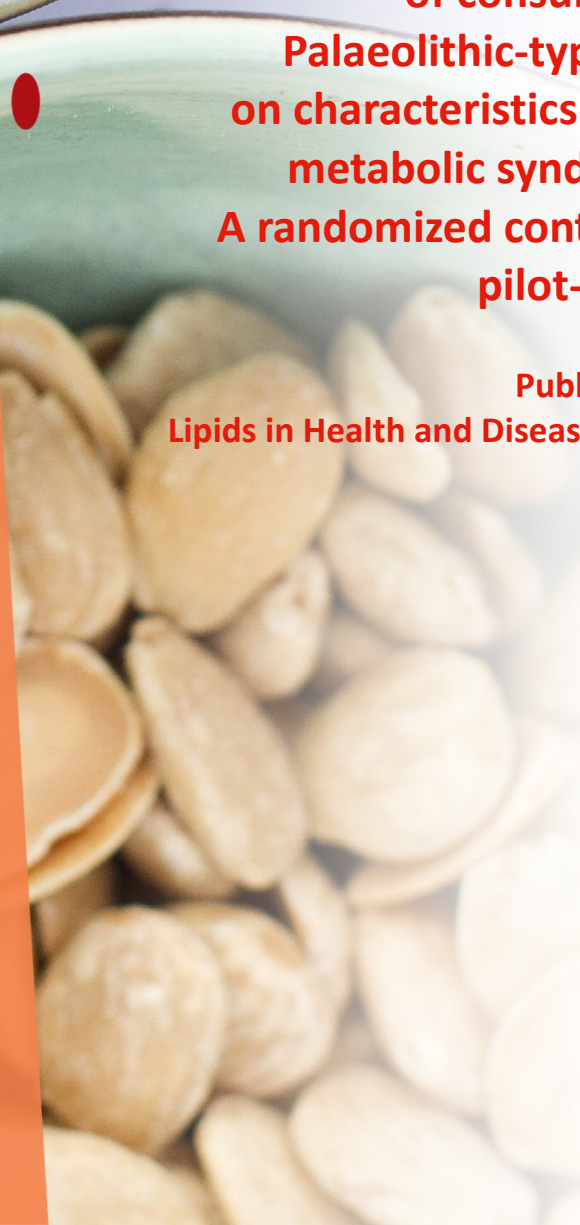
**Abstract of
scientific publication**

**'Favourable effects
of consuming a
Palaeolithic-type diet
on characteristics of the
metabolic syndrome.
A randomized controlled
pilot-study'**

**Published at
Lipids in Health and Disease (2014)**

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Regarding: nutritional intervention study in people with characteristics of the metabolic syndrome, conducted by the Louis Bolk Institute in cooperation with Wageningen University, the University of Groningen, the University of Girona (Spain) and Scriptum.

Background

The main goal of this randomized controlled single-blinded pilot study was to study whether, independent of weight loss, a Palaeolithic-type diet alters characteristics of the metabolic syndrome. Next we searched for outcome variables that might become favourably influenced by a Palaeolithic-type diet and may provide new insights in the pathophysiological mechanisms underlying the metabolic syndrome. In addition, more information on feasibility and designing an innovative dietary research program on the basis of a Palaeolithic-type diet was obtained.

Methods

Thirty-four subjects, with at least two characteristics of the metabolic syndrome, were randomized to a two weeks Palaeolithic-type diet ($n=18$) or an isoenergetic healthy reference diet, based on the guidelines of the Dutch Health Council ($n=14$). Thirty-two subjects completed the study. Measures were taken to keep bodyweight stable. As primary outcomes oral glucose tolerance and characteristics of the metabolic syndrome (abdominal circumference, blood pressure, glucose, lipids) were measured. Secondary outcomes were intestinal permeability, inflammation and salivary cortisol. Data were collected at baseline and after the intervention.

Results

Subjects were 53.5 (SD9.7) year old men ($n=9$) and women ($n=25$) with mean BMI of 31.8 (SD5.7) kg/m^2 . The Palaeolithic-type diet resulted in lower systolic blood pressure (-9.1mmHg; $P=0.015$), diastolic blood pressure (-5.2mmHg; $P=0.038$), total cholesterol (-0.52mmol/l; $P=0.037$), triglycerides (-0.89mmol/l; $P=0.001$) and higher HDL-cholesterol (+0.15mmol/l; $P=0.013$), compared to reference. The number of characteristics of the metabolic syndrome decreased with 1.07 ($P=0.010$) upon the Palaeolithic-type diet, compared to reference. Despite efforts to keep bodyweight stable, it decreased in the Palaeolithic group compared to reference (-1.32 kg; $P=0.012$). However, favourable effects remained after post-hoc adjustments for this unintended weight loss. No changes were observed for intestinal permeability, inflammation and salivary cortisol.

Conclusions

We conclude that consuming a Palaeolithic-type diet for two weeks improved several cardiovascular risk factors compared to a healthy reference diet in subjects with the metabolic syndrome.

The complete article is available online at the website of Lipids in Health and Disease.

Trial registration

Nederlands Trial Register NTR3002

Keywords

Palaeolithic diet: prevention: metabolic syndrome: weight loss correction

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