The effects of resistant starch, protein and capsaicin on energy-expenditure, hormones and satiety

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Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON29901

Source
ToetsingOnline

Brief title
Effects of RS, protein and capsaicin.

Condition

- Other condition

Synonym
overweight

Health condition

obesitas

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Maastricht
Source(s) of monetary or material Support: NUTRIM als partner in het Wageningen Centre for Food Sciences dat gefinancierd wordt door de Europese Unie

Intervention

Keyword: capsaicin, protein, resistant starch, weightmanagement

Outcome measures

Primary outcome

The outcomes of the ventilated hood study will be differences in satiety during

4 hours after the meals, in DEE and changes in blood-parameter concentrations.

Secondary outcome

Differences between the conditions in thirst or nausea.

Study description

Background summary

It is known that the replacement of digestible starch with resistant starch (RS) may reduce post-prandial glycemia and insulinemia, and may increase post-prandial satiety.
Furthermore, it is known that high-protein foods are more satiating and have a higher thermogenic effect than normal protein foods, over the short as well as over the long-term.
Third, addition of capsaicin to the diet has been shown to increase satiety and thermogenesis.

Study objective

The aim of the study is to test the effect of the single food-components (RS, protein, capsaicin), which have been shown to influence energy expenditure and satiety beneficially, on energy expenditure, substrate oxidation, satiety related hormones and satiety. This protocol is designed to quantitatively compare the magnitude of the three components. Furthermore, we will investigate the effects of the single food-components on three satiety hormones, i.e.

GLP-1, ghrelin, and PYY.

Study design

The study will both have a randomized 4 arms crossover design. Randomization takes place using a computerized randomization program.

Intervention

The study consists of 4 test-days.
After a standard subject-specific 15% of daily energy intake (EI) breakfast, lunch will be served. The four ad libitum lunches conditions are:
i) normal pasta, normal protein content, no capsaicin; ii) resistant starch pasta, normal protein content, no capsaicin; iii) normal pasta, high protein content, no capsaicin; iv) normal pasta, normal protein content, plus capsaicin.

Study burden and risks

The study consist of 4 testdays of 5 hours each. De subjects will be lying on a bed during the test, except during lunch.
The studies do not include any other risks for subjects, apart from usual risks of minor bruising during blood sampling.

Contacts

Public
Universiteit Maastricht

postbus 616
6200MD Maastricht
Nederland
Scientific
Universiteit Maastricht

postbus 616
6200MD Maastricht
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

Healthy non-smoking non-dieting subjects with a BMI between 22-33kg/m2 and an age between 20 and 60 years

Exclusion criteria

Smoking, dieting, disease

Study design

Design

Study type: Interventional

Masking:	Single blinded (masking used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	12-09-2006
Enrollment:	40
Type:	Actual

Ethics review

Approved WMO Date:	06-09-2006
Application type:	First submission
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL13626.068.06