The effect of protein content and taste of a meal on satiety

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To determine the effect of protein content (low vs. high) and taste (sweet vs. savory) of a meal on satiety, measured by subsequent intake of 4 different food categories (low-protein sweet, low-protein savory, high-protein sweet, and high-protein...

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

Summary

ID

NL-OMON32782

Source
ToetsingOnline

Brief title
ProStudy

Condition

- Other condition

Synonym
fatness, obesity

Health condition

obesitas

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: STW,CSM,Friesland Nutrition,TNO,Unilever

Intervention

Keyword: macronutrients, protein, satiety, taste

Outcome measures

Primary outcome

Our main outcome measure is the difference in intake (g) of the 4 food

categories at an ad libitum lunch buffet between the 4 different treatments.

Secondary outcome

The secundary study parameter is the difference between the 4 treatments on

different aspects of food liking and wanting measured with an Food Preference

Questionnaire.

Study description

Background summary

Sensory properties have been shown to play a role in food selection and intake. It has been posed that protein intake is tightly regulated in the human body. A high-protein meal produces a significantly greater reduction in liking for high-protein foods than for high-carbohydrate foods. And as products with a savory taste are in general higher in protein levels while food products with a sweet taste are more related with carbohydrates, a link between taste and macronutrient in control of intake seems to exist. This link, however, is far from clear.

Study objective

To determine the effect of protein content (low vs. high) and taste (sweet vs. savory) of a meal on satiety, measured by subsequent intake of 4 different food categories (low-protein sweet, low-protein savory, high-protein sweet, and

high-protein savory).

Study design

The study is a cross-over intervention study and has a 2x2 factorial design, the 2 factors being protein (low and high) and taste (sweet and savory) of a meal, resulting in 4 different treatments.
Each subject participates in all 4 treatments whereby the order is randomized according to a Latin square. Subjects will be offered a (rice) meal (fixed preload), varying in protein content and taste. After finishing, subsequent intake of 4 different food categories (low-protein sweet, low-protein savory, high-protein sweet, and high-protein savory) at an ad libitum lunch buffet is measured.

Intervention

Participant will receive 4 rice meals, varying in protein content (low vs. high) and taste (sweet vs. savory).

Study burden and risks

The study is non-therapeutic to the participants. The risk associated with participation is negligible and compared to other studies the burden can be considered low.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Section 4.2 from the research proposal
• Age: 18-35 year
• BMI: 18.5 - 25.0 kg/m2
• Healthy (as judged by the participant)
• Liking for test products (assessed in screening-questionnaire with a 9-point hedonic scale, subjects have to like or have a neutral attitude towards the products: score >= 5).

Exclusion criteria

Section 4.3 from the research proposal
• Restraint eating (men: score > 2.25; women: score > 2.80)
• Lack of appetite for any (unknown) reason
• Usage of a energy restricted diet during the last two months
• Weight loss or weight gain of 5 kg or more during the last two months
• Stomach or bowel diseases
• Diabetes, thyroid disease, or any other endocrine disorder
• Having difficulties with swallowing/eating
• Hypersensitivity (allergy and/or intolerance) for the food products under study
• Smoking (at least one cigarette a day)
• For women: pregnant or lactating
• Being a vegetarian
• Having participated in *RiceTime*, *LunchTime* or *Smaak-Geur* or current participation in other research from the division of human nutrition (WUR).

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	18-01-2010
Enrollment:	60
Type:	Actual

Ethics review

Approved WMO

Date:	15-12-2009
Application type:	First submission
Review commission:	METC Wageningen Universiteit (Wageningen)

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	NL29991.081.09