Differences in food cue reactivity between lean and overweight individuals

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To determine differences in food cue reactivity between lean individuals and individuals with overweight. We will study behavioural (food choice, food intake, mood ratings) as well as physiological parameters (heart rate, skin conductance, saliva...

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

Summary

ID

NL-OMON37903

Source
ToetsingOnline

Brief title
Flair

Condition

- Other condition
- Appetite and general nutritional disorders

Synonym
eating behaviour, overweight

Health condition

overgewicht

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: NWO

Intervention

Keyword: Eating behaviour, Energy content, Food cue reactivity, Overweight

Outcome measures

Primary outcome

Food-choice, ad libitum food-intake, mood, Saliva flow-rate, heart rate, skin

conductance responses.

Secondary outcome

Habituation response of heart rate and saliva flow-rate, alpha amylase activity

in saliva samples collected in one session

Study description

Background summary

Worldwide 1.5 billion adults are overweight. Overweight occurs when the intake of energy exceeds energy expenditure. It has been suggested that overweight people are more sensitive to sensory and rewarding effects of food, aspects that mediate eating behaviour. Food odours can be considered as anticipatory cues for the rewarding effects of food intake. Odours of foods with a high energy content may predict higher reward value. Possibly, increased reward sensitivity is related to a stronger bodily response and a stronger tendency to choose high-energy food products after being exposed to high-energy food odours (high food-cue reactivity). This may subsequently lead to overeating and eventually to overweight. Differences in the behavioural and physiological responses to (high-energy) food odours could explain why overweight people tend to overeat and lean people do not.

Study objective

To determine differences in food cue reactivity between lean individuals and individuals with overweight. We will study behavioural (food choice, food

intake, mood ratings) as well as physiological parameters (heart rate, skin conductance, saliva production) in response to three different odour categories (signalling non-food, high-energy food, low-energy food). We will study physiological responses to non-food odours and pictures to determine an effect of food cues, and rule out a more general increase in arousal of the autonomic nervous system in overweight individuals.

Study design

Randomized controlled cross-over within-subject intervention study. Every volunteer will participate in one screening session and six test sessions. In each test session the volunteer will be exposed to an ambient odour and will be tested for physiological and behavioural measures that reflect food cue reactivity.

Intervention

ad libitum food intake
exposure to ambient odours

Study burden and risks

This study is non-therapeutic. Participation with this study is associated with a negligible burden and risk. Compared to other studies the burden can be considered as low. The study includes six site visits (3 x hungry, 3 x satiated) plus a screening session.

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

Female
BMI between 18.5-25 kg/m2 (lean) or above 27 kg /m2 (overweight)
18-55 years of age

Exclusion criteria

- Food preference inconsistent with food odours used in the study
- Food sensitivity/allergy for food products used in the study
- Vegetarian
- Impairments in sight, hearing or hand movements that interfere with following the instructions
- Impairments in smelling or swallowing
- (Post)menopausal
- Pregnant in the past 6 months
- Breast feeding
- History of psychiatric, neurologic or physical illness/abnormalities that might influence eating behaviour or body weight (e.g. eating disorder, endocrine illness, gastro-intestinal illness)
- Use of medication that interferes with the aim of the study (e.g. psychoactive, anti-obesity)
- Brain trauma (loss of consciousness for more than 10 minutes)
- Addiction (recent or current)
- Smoker
- Participants that, in the opinion of the researcher, are not able to understand test instructions and procedures
- Staff member of the division of Human Nutrition at Wageningen University

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)
Control:	Active
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-10-2012
Enrollment:	60
Type:	Actual

Ethics review

Approved WMO

Date:	19-06-2012
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	NL40419.081.12