Effect of sniffing and odour concentration on appetite, sensory-specific appetite, food choice and food intake

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To investigate the effect of sniffing , odour concentration and 'naturalness' on appetite, sensory-specific appetite, food choice and food intake.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON35303

Source
ToetsingOnline

Brief title
Accent

Condition

- Other condition

Synonym
corpulence, overweight

Health condition

etiologie van obesitas

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: NWO-STW,CSM,Danone,Friesland Campina,Unilever

Intervention

Keyword: active smelling, food choice, odour concentration, Sensory-specific appetite

Outcome measures

Primary outcome

Delta appetite = post exposure - pre exposure (rated on VAS: *Hoeveel zin heb

je om op dit moment te eten?*)

Delta sensory-pecific appetite = post exposure - pre exposure (rated on VAS:

*Hoeveel zin heb je om op dit moment bananen te

eten?*). This is also a measure for sensory-specific satiation.

Food choice frequency: frequence of choice for a certain product

Ad libitum intake

Secondary outcome

none

Study description

Background summary

There is a need from industry for scientific knowledge on how odours influence appetite responses, food intake and food choice to support product development. Several studies found that the appetite for a smelled food increased more than the appetite for foods that were not smelled. The latter is named sensory-specific appetite (SSA). Data from our previous study SpitOut do not correspond with the data from the study that was executed by Rolls [7]. Although participants of both studies were exposed to orthonasal odour (from the outside world through the nose), our method differed from the method that

Rolls used: 1. In the study by Rolls participants actively sniffed a cup that was filled with smashed bananas, while the participants in our study smelled the odours passively, i.e. the participants sat in a room that was filled with odour. 2. Moreover, the concentration of the smashed bananas may have been different from the concentration that we had in the test room. Furthermore, it may be that *natural* odours evoke stronger SSA responses than *synthetical* odours.

Study objective

To investigate the effect of sniffing , odour concentration and 'naturalness' on appetite, sensory-specific appetite, food choice and food intake.

Study design

A parallel intervention study with 2 groups will be conducted: group *passive* and group 'active. Participants will be randomly assigned to one of the groups. Both groups will be exposed to six conditions.
Group 'passive' will be exposed to two odours (banana and meat) and three different concentration conditions: no-odour, low odour concentration and high odour concentration.
Group *active* will be asked to intensely sniff a cup that is filled with either no odour (duplo), a synthetical odour (banana or meat), or real food (smashed banana or steamed meat).
Participants are expected in the lab for six times around lunch time, with a wash-out time of preferably one week but at least four days. During every visit, the participants will be exposed to one test condition. During each session we will measure appetite, sensory-specific appetite, sensory-specific satiation, food choice and food intake.

Intervention

exposure to odours by passive or active smelling

Study burden and risks

The study is non-therapeutic to the participant. The risk associated with participation is negligible.
Compared to other studies the burden can be considered as 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

women
healthy based on self report
118-45 yr
BMI between 18.5 - 25 kg/m2
healthy appetite

Exclusion criteria

smoking
dieting for the past 2 months
vegetarian
unrestrained

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	14-11-2011
Enrollment:	120
Type:	Actual

Ethics review

Approved WMO

Date:	15-11-2011
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	NL38218.081.11