Effect of the amount of bites and orosensory exposure time on ad libitum intake

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The objective of this study to investigate the effect of the amount of bites and orosensory exposure time, separately, on satiation (measured as ad libitum intake).

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

Summary

ID

NL-OMON34457

Source
ToetsingOnline

Brief title
Soup-time

Condition

- Other condition

Synonym
overweight

Health condition

obesitas

Research involving
Human

Sponsors and support

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

Intervention

Keyword: ad libitum intake, bites, exposure time, orosensory

Outcome measures

Primary outcome

Ad libitum intake

Secondary outcome

Hedonic and appetite ratings

Study description

Background summary

Sensory food properties are important for food intake regulation. For example, solid foods were found to be more satiating than liquids. In literature, this is mainly explained by the fact that liquids are consumed faster than solids. First, liquids need less oral processing time and second, liquids are consumed in larger sip sizes. Both effects result in less sensory exposure in the oral cavity (orosensory) per gram food in liquids compared to solids. In addition, studies that used controlled experimental designs showed us that the orosensory exposure time is indeed important in satiation. However, the fact that solids are consumed with smaller bites does not only lead to a larger exposure time per gram food, but also means that more bites needs to be taken before an actual amount of food is consumed. It is possible that also the amount of bites contributes to satiation. Every time we take a new bite, means that we have a new exposure in the mouth and that we have to swallow again. The effect of the amounts of bites on satiation, apart from exposure time is not studied before as far as we know.

Study objective

The objective of this study to investigate the effect of the amount of bites and orosensory exposure time, separately, on satiation (measured as ad libitum

intake).

Study design

A cross-over intervention study consisting of four treatments:
1.*short* condition: administration of 15g tomato soup in 3s (per 15s)
2.*long* condition: administration of 15g tomato soup in 9s (per 15s)
3.*shortbite* condition: administration of three times 5g in three times 1s (per 15s)
4 *longbite* condition: administration of three times 5g in three times 3s (per 15s)

The total exposure time in the *short* and *shortbite* per 15 g will be equal: 3s in 15s
The total exposure time in the *long* and *longbite" per 15 g will be equal: 9s in 15s

Intervention

To investigate the effect of orosensory exposure time, the ad libitum intake of the *short* conditions (index treatment) will be compared with the ad libitum intake of the *long* conditions (reference treatment) (see Table 1 in protocol for an overview).
In addition, to investigate the effect of bites, the ad libitum intakes of the *shortbite* and *longbite* condition (index treatments) will be compared with the ad libitum intake of the "short" and*long* condition (reference treatment).

Study burden and risks

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

Contacts

Public
Wageningen Universiteit

Bomenweg 2
6703 HD Wageningen
NL
Scientific
Wageningen Universiteit

Bomenweg 2
6703 HD Wageningen
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

men
non-smoking
age: 18-35 year
healthy (as jugded by the participant)
BMI between 18.5 - 25 kg/m2.

Exclusion criteria

a score of <5 at a 9-point pleasantness scale for tomato soup
difficulties with swallowing
following diets during last two month
restaint eating behaviour

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):	17-11-2010
Enrollment:	57
Type:	Actual

Ethics review

Approved WMO

Date:	22-11-2010
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

ID: 22941
Source: Nationaal Trial Register
Title:

In other registers

Register	ID
CCMO	NL34082.081.10
OMON	NL-OMON22941