

Why does the number of bites affects satiation? A possible role for cognition*

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The objective of this study to investigate the role of attention on the effect of NB on ad libitum intake.

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

Summary

ID

NL-OMON35817

Source

ToetsingOnline

Brief title

Movie

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

Intervention

Keyword: ad libitum intake, cognition, distraction, memory, Number of bites, satiation

Outcome measures

Primary outcome

- Ad libitum intake in grams

Secondary outcome

- NB, bite frequency and bite size in the *Free* condition
- Estimated amount consumed in grams (explained in section 5.3.2 of the protocol).
- Appetite ratings (i.e., pleasantness, desire-to-eat, hunger, fullness, prospective consumption and thirst) before and after ad libitum intake.

Study description

Background summary

We showed recently that the number of bites (NB) is important in satiation. A relative higher NB (three bites of 5 g vs. one bite of 15 g) resulted in ~22% lower food intake. It is not clear why NB affects satiation. It is possible that a relatively higher NB make people believe that they consume more, which triggers a faster satiation. If this would be the case, then cognition and memory may be important for the effect of NB on satiation. Distraction during consumption impairs memory and cognition, therefore, the state of attention may play a role in the effect of NB on satiation.

Study objective

The objective of this study to investigate the role of attention on the effect of NB on ad libitum intake.

Study design

A 3x2 cross-over intervention study. A low NB condition (LNB), a high NB condition (HNB) and a free NB condition (Free) will be presented in an attentive and distractive state. Bites and intervals are administered and controlled by a pump.

In the primary objective, the effect of NB will be investigated in a controlled design where only the NB will be varied in both an attentive and distractive state (see figure 1, *LNB and HNB* conditions).

The secondary objective aims to investigate whether a distractive state will actually lead to an increased NB (and also bite frequency and bite size) in a *Free* condition (see figure 1, *Free* condition).

See section 3 of the protocol for further explanation.

Intervention

To investigate the role of attention on the effect of NB on ad libitum intake (primary objective), the difference in ad libitum intakes of the *LNB-D* - *HNB-D* (index) will be compared with the difference in ad libitum intake of the *LNB-A* - *HNB-A* conditions (reference) .

To investigate whether attention influences the NB, bite frequency, bite size and ad libitum intake (secondary objective), these measurements will be compared between the *Free-D* state vs. the *Free-A* condition.

Study burden and risks

The study is non-therapeutic to the subjects. 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

men

non-smoking

age: 18-35 year

healthy (as judged 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

restraint eating behaviour

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Masking:	Single blinded (masking used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL
Recruitment status: Recruitment stopped
Start date (anticipated): 04-10-2011
Enrollment: 55
Type: Actual

Ethics review

Approved WMO
Date: 29-09-2011
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

ID: 29110
Source: NTR
Title:

In other registers

Register	ID
CCMO	NL36277.081.11
OMON	NL-OMON29110