Sensory specific satiety of lemonade sweetened with sucrose vs. lemonade sweetened with artificial sweeteners

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To compare the development of sensory specific satiety for sweetness after consumption of energy containing and low energy soft drinks. Moreover, we investigate whether SSS depends on the method of administration / oral processing, which influences...

Ethical review	Approved WMO
Status	Pending
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON30434

Source
ToetsingOnline

Brief title
SSS of sweetened lemonades

Condition

- Other condition

Synonym
n.a.

Health condition

geen aandoening

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: Suikerstichting Nederland,Suikerstichting Nederland;Amsterdamsestraatweg 39A;3744 MA Baarn

Intervention

Keyword: energy desity, oral exposure, sensory specific satiety, sweetness

Outcome measures

Primary outcome

The difference in the development of SSS, measured as the decrease in

palatability ratings of the test foods from before to after consumption minus

the decrease in palatability of other non-eaten foods, between the sucrose

lemonade and the artificially sweetened lemonade, and between administration of

the lemonades with small swallows and administration with large swallows.

Secondary outcome

n.a.

Study description

Background summary

Scientific literature proposes that oral sensory stimulation rather than energy content provides sensory specific satiety (SSS) for sweetness. Therefore, we suggest that energy containing soft drinks do not produce more SSS than low energy soft drinks.

Study objective

To compare the development of sensory specific satiety for sweetness after consumption of energy containing and low energy soft drinks. Moreover, we investigate whether SSS depends on the method of administration / oral processing, which influences the sensory stimulation.

Study design

The study is a randomized, crossover, intervention study, in which the development of SSS of two test lemonades will be tested. For each of the lemonades, development of SSS will be tested with two different administration conditions (administration in large swallows, low oral sensory stimulation, and administration in small swallows, high oral sensory stimulation, respectively). For the subjects, the four sessions take place on separate test days, separated by at least 48 hrs.

Intervention

Each subject participates in 4 sessions. Each session, subjects taste and rate a small sample of 3 liquid foods and rate the palatability. Next, the subject will consume an ad libitum amount of one of the foods (test lemonade), either administered with large or with small swallows. Time for consumption will be fixed (10 min.). Subsequently the subject will again taste and rate a small sample of the same 3 foods. Ad libitum consumption volume will be recorded. The test foods are orange flavoured lemonades, similar in taste. The one is sweetened with sucrose (10%), the other with artificial sweeteners. The sweetness of the lemonades is matched.

Study burden and risks

The intervention is non-therapeutic to the subject. The risk associated with participation is negligible and the burden can be considered as minimal. Subjects first fill in a questionnaire at home. Next, subjects have to come to the research centre four times, during which they have to taste several products (commercially available or exclusively containing ingredients that are suitable for human consumption) fill in short questionnaires, and consume one of the products until pleasantly satisfied. Subjects will sign informed consent upon participation.

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

aged 18-30, right-handedness, Body Mass Index between 20 and 25 kg/m2, and healthy, as judged by the subject.

Exclusion criteria

smoking, dieting, restrained eating, an allergy to the test foods, and the use of medication with a possible effect on taste and/or appetite.

Study design

Design

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	15-02-2007
Enrollment:	50
Type:	Anticipated

Ethics review

Approved WMO

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	NL15958.081.07