

# The effects of snack consumption during two months on body weight

**Submission date**

14/05/2009

**Recruitment status**

No longer recruiting

☐ Prospectively registered

☐ Protocol

**Registration date**

17/06/2009

**Overall study status**

Completed

☐ Statistical analysis plan

☒ Results

**Last Edited**

03/06/2020

**Condition category**

Nutritional, Metabolic, Endocrine

☐ Individual participant data

**Plain English summary of protocol**

Not provided at time of registration

**Study website**

<http://www.voedingscentrum.nl/Voedingscentrum/English>

## Contact information

**Type(s)**

Scientific

**Contact name**

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**Contact details**

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## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

**Secondary identifying numbers**

NL22403.081.08; METC-WU / 08/04

# Study information

## Scientific Title

The effects of two months of snack consumption during a meal or in between meals on energy balance: a randomised parallel 2 x 2 factorial single-centre trial

## Acronym

Snack study

## Study objectives

There is controversy about the influences of snack consumption on energy balance. Short term intervention studies demonstrate no energy intake compensation, which suggests that eating in between meals result in higher daily energy intake. Epidemiological studies however, do not show a clear relation between snack consumption and overweightness.

The aim of the current experiment is to investigate the long term effects of moments of snack consumption on compensation behaviour and energy balance in a free living situation. In addition, we will focus on the effects of energy density on energy balance.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Medical Ethical Testing Committee (METC), Wageningen University (t.a.v. Prof. CPGM de Groot), Department of Human Nutrition, approved in May 2008 (ref: NL22403.081.08)

## Study design

Randomised parallel 2 x 2 factorial single-centre trial

## Primary study design

Interventional

## Secondary study design

Randomised controlled trial

## Study setting(s)

Other

## Study type(s)

Other

## Participant information sheet

## Health condition(s) or problem(s) studied

Obesity, overweight

## Interventions

Snacks are consumed either with a meal or between meals and the snacks have either a low (less than 4 kJ/g) or high (greater than 12 kJ/g) energy density. Subjects consume the snacks daily for 8 weeks. The energy content of the snacks in each study group is 25% of the participant's daily energy needs.

**Intervention Type**

Other

**Phase**

Not Applicable

**Primary outcome measure**

Change in weight after two months of intervention. The change in weight will be compared between the 4 groups. Body weight is assessed in week 1 and in week 8 on a digital scale to the nearest 0.01 kg. Body weight is also assessed twice a week during the 8 weeks of intervention to keep track of changes over time.

**Secondary outcome measures**

1. Observed energy intake on two days in week 1 and on two days in week 8
2. Body composition assessed with air displacement plethysmography on one morning in week 1 and on one morning in week 8
3. Level of physical activity is assessed on 7 days in week 1 and 7 days in week 8 by means of an activity diary and by a pedometer

**Overall study start date**

06/10/2008

**Completion date**

03/12/2008

**Eligibility****Key inclusion criteria**

1. Age: 18 - 35 years
2. Body mass index (BMI): 18.5 - 23 kg/m<sup>2</sup>
3. Healthy men and women

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Both

**Target number of participants**

80

**Total final enrolment**

82

**Key exclusion criteria**

1. Weight change of greater than 1 kg in last three months
2. Smoking
3. Following an energy restricted diet during the last six months
4. Gastro-intestinal diseases
5. Diabetes, thyroid diseases, or any other endocrine disorders
6. Lack of appetite for any (unknown) reason
7. Restraint eating (men: score greater than 2.26; women: score greater than 2.80 on Dutch Eating Behaviour Questionnaire (DEBQ), norm table of 2005)
8. Participation in a different study, performed by the Department of Human Nutrition

**Date of first enrolment**

06/10/2008

**Date of final enrolment**

03/12/2008

**Locations****Countries of recruitment**

Netherlands

**Study participating centre**

**Wageningen University**

Wageningen

Netherlands

6700 EV

**Sponsor information****Organisation**

Wageningen University (Netherlands)

**Sponsor details**

Department of Human Nutrition

PO box 8129

Wageningen

Netherlands

6700 EV

**Sponsor type**

University/education

**Website**

<http://www.wageningenuniversiteit.nl/UK/>

**ROR**

<https://ror.org/04qw24q55>

## Funder(s)

**Funder type**

Research organisation

**Funder Name**

Dutch Nutrition Centre (Netherlands)

## Results and Publications

**Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/02/2010	03/06/2020	Yes	No