The influence of volume and osmolarity of a drink on energy expenditure

Published: 07-07-2006
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Aim of the study is to answer the following questions:What is the influence of drinking different kinds of volumes on energy expenditure?What is the influence of drinking solutions with different osmolarities on the energy expenditure?Are changes in...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Appetite and general nutritional disorders
Study type	Interventional

Summary

ID

NL-OMON29730

Source
ToetsingOnline

Brief title
Volume, osmolarity and energy expenditure

Condition

- Appetite and general nutritional disorders

Synonym
n.a.

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Maastricht
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: drinking, energy expenditure, osmolarity, volume

Outcome measures

Primary outcome

energy expenditure

Secondary outcome

heart rate and blood pressure

finger tremor

temperature

Study description

Background summary

In western societies the prevalence of overweight and obesity is increasing. Recent studies show that drinking of 0.5 L water increases energy expenditure. The underlying mechanism is unknown. Two factors appear to play an important role: volume and osmolarity of the drink. In this study the role of stretch receptors and osmoreceptors in the thermogenic response after drinking will be studied.

Study objective

Aim of the study is to answer the following questions:
What is the influence of drinking different kinds of volumes on energy expenditure?
What is the influence of drinking solutions with different osmolarities on the energy expenditure?
Are changes in energy expenditure associated with changes in heart rate and finger tremor, as an index for activation of the sympathetic nervous system?

Study design

Double-blind, randomised cross-over design.

Intervention

The volunteers have to drink five different drinks:
1. 0,5 L water
2. 0,35 L water
3. 0,2 L water
4. 0,5 L 0,9% NaCl
5. 0,5 L 1,5% NaCl

Study burden and risks

no risks

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

healthy volunteers, age 18-25 years

Exclusion criteria

medication use, under treatment of physician

Study design

Design

Study type: Interventional

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	14-07-2006
Enrollment:	12
Type:	Actual

Ethics review

Approved WMO

Date:	07-07-2006
Application type:	First submission
Review commission:	METC academisch ziekenhuis Maastricht/Universiteit Maastricht, METC azM/UM (Maastricht)

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	NL12166.068.06