Reward-related neural responses to the taste of regular and non-alcoholic beer

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The objective of this study is to assess whether oral exposure to beer and non-alcoholic beer elicits similar reward responses in the brain in a setting where only beer is expected. This knowledge will give fundamental insight in whether alcohol is...

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

Summary

ID

NL-OMON40365

Source
ToetsingOnline

Brief title
Beer study

Condition

- Other condition

Synonym
Niet van toepassing

Health condition

Geen.

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: Ministerie van OC&W,co-financiering door het Kennisinstituut Bier,Kennisinstituut Bier

Intervention

Keyword: Beer, Neural responses, Non-alcoholic beer, Reward

Outcome measures

Primary outcome

The main study parameter/endpoint is brain activation in response to tasting

beer and non-alcoholic beer.

Secondary outcome

Not applicable

Study description

Background summary

In various countries in the industrialized world, beer brewers are launching non-alcoholic beers on the market place. Non-alcoholic beer may be a thirst quenching non-sweet beverage, with almost similar properties as regular alcohol containing beer. One of the questions around non-alcoholic beer is whether or not people associate its sensory properties with reward as they do with regular beer.
So far, no research has been done to investigate whether the reward value of commercially available non-alcoholic beer equals that of alcohol-containing counterpart in a setting where alcohol is expected.

Study objective

The objective of this study is to assess whether oral exposure to beer and non-alcoholic beer elicits similar reward responses in the brain in a setting where only beer is expected. This knowledge will give fundamental insight in whether alcohol is detected by the brain independent of taste sensations or whether the flavour of beer is a conditioned cue associated with alcohol.

Study design

The study has a randomized crossover design (within subject design) in which participants taste a fixed amount of beer and non-alcoholic beer during an fMRI scan session. The order in which participants are exposed to beer and non-alcoholic beer is randomized and counterbalanced.

Study burden and risks

This study will consist of a sensory test and a training session (screening: approx. 60 min (including filling out questionnaires and measurement of body height and weight)) and the actual experiment (approx. 60 min) on separate days. Participants will visit the laboratory in Wageningen for the sensory test and training session. For the fMRI experiment, participants will visit the MRI facility in Hospital Gelderse Vallei (Ede) once. During the MRI session subjects will taste beer and non-alcoholic beer.
The study is non-therapeutic to the participants. The risk associated with participation is negligible.

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

See page 8 of the protocol
- Gender: male
- Age: 18-35 years
- BMI: 20 - 25 kg/m2
- Healthy (as judged by the participant)
- Being right handed
- Used to drinking beer

Exclusion criteria

See page 8 and 9 of the protocol
- Restraint eating (men: DEBQ score > 2.25)
- Lack of appetite
- Having difficulties with swallowing/eating
- Usage of an energy restricted diet during the last two months
- Weight loss or weight gain of 5 kg or more during the last two months
- Having endocrine, bowel or neurological disorders the might have undesirable effect on MRI measurments.
- Having taste or smell disorders
- Usage of daily medication other Paracetamol
- Smoking more than 7 cigarettes/cigars per week
- Being allergic/intolerant for products under study
- Working at the Division of Human Nutrition (WUR)
- Current participation in other research from the Division of Human Nutrition (WUR)
- Drinking on average more than 21 alcoholic beverages a week
- Family history of alcoholism (loss of control, tolerance or withdrawal symptoms towards alcohol in direct family)
- Having a contra-indication to MRI scanning

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	19-05-2014
Enrollment:	20
Type:	Actual

Ethics review

Approved WMO

Date:	28-04-2014
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	NL47358.081.13