

Recognition of tobacco flavours at the brain level

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Considering the high prevalence of smoking and tobacco related deaths, knowledge about the appealing function (attractiveness) of tobacco additives is highly significant, because they promote the initiation of smoking. This part of the investigation...

Ethical review	Not approved
Status	Will not start
Health condition type	Other condition
Study type	Observational invasive

Summary

ID

NL-OMON35359

Source

ToetsingOnline

Brief title

Aroma recognition

Condition

- Other condition

Synonym

scent recognition

Health condition

herkenning van geuren

Research involving

Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum

Source(s) of monetary or material Support: Ministerie van VWS en nVWA

Intervention

Keyword: scent recognition, tobacco aroma

Outcome measures

Primary outcome

Recognition of scents (flavours) and its association with historical memory to the scents and the smoking brand choice.

Secondary outcome

Not applicable

Study description

Background summary

In the EU, about a third of the adult population are smokers, and the number of deaths from smoking per year is currently about 500,000. According to the WHO, about 100 million people died in the 20th century from tobacco use. According to the WHO, the term **attractiveness** refers to factors such as taste, smell and other sensory attributes, which are meant to increase their use (1). Many compounds, mostly flavours, are added in minute amounts (in ng or *g) to cigarettes. For example, flavours such as **sugars** and **vanillin** are intended to appeal to a target population, and are believed to promote starting smoking. The sugars in tobacco generate upon heating caramel-like compounds, which have an attractive smell and taste.

reference

1. WHO. The scientific basis of tobacco product regulation: Report of a WHO Study Group. WHO Technical Report Series 945. Geneva, Switzerland: World Health Organization Press; 2007b. Available from: URL:

Study objective

Considering the high prevalence of smoking and tobacco related deaths, knowledge about the appealing function (attractiveness) of tobacco additives is highly significant, because they promote the initiation of smoking. This part of the investigation deals with sensory properties of two compounds frequently used as tobacco ingredient: caramel and vanillin.

Using the MRI technique, responses in the emotional memory can be detected (activation of amygdala, ventral striatum and olifactory bulb).

The main hypothesis to be tested is that subjects remember flavours from early childhood which stimulated them to start smoking (a specific brand containing these flavours).

Specific research questions are:

- a) Is the recognition of vanilla and caramel experienced as positive or negative?
- b) Is recognition related to smoking particular brands (current or past preference), which contain the flavour?
- c) Do subjects recognise the flavour experienced as nice during exposure in childhood, as indicated by brain DTI responses?
- d) Do the DTI-responses correspond to answers in the questionnaire about remembrance of flavours?

Study design

Open single blind controlled study using questionnaires and DTI-scanning of brain.

Study burden and risks

In the scanner, subjects will be shortly (2x5 min.) nasally exposed to low concentrations (just above scent threshold) of two flavours. The two flavours tested (caramel and vanilla) are routinely used in tobacco and food manufacture.

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

* Age 18-40 years.

* Expressed willingness to participate to experimental part in AMC (MRI).

Exclusion criteria

* Subjects/patients with epilepsy.

* With respect to MRI imaging: claustrophobia; presence of non-removable metal objects, use of psychotropic medication.

. Pregnant or breast-feeding mothers

Study design

Design

Study type: Observational invasive

Intervention model: Parallel

Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Prevention

Recruitment

NL	
Recruitment status:	Will not start
Enrollment:	60
Type:	Anticipated

Ethics review

Not approved	
Date:	05-06-2012
Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL39338.018.11