De FOCOM studie: een studie naar activatie van hersengebieden tijdens het maken van opdrachten op de computer

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON25944

Source
NTR

Brief title
FOCOM NIRS studie

Health condition

aging - veroudering
working memory - werkgeheugen
response inhibition - respose inhibitie

Sponsors and support

Primary sponsor: Wageningen University, division of Human Nutrition
Source(s) of monetary or material Support: European Fund for Regional Development (EFRO), the province of Gelderland and the national government

Intervention

Outcome measures

Primary outcome

Oxygenated (O2Hb) and deoxygenated (HHb) hemoglobin concentration changes (ìmol/L), measured during baseline and the performance of the cognitive paradigm

Secondary outcome

- Total hemoglobin changes (O2Hb + HHb) (ìmol/L), measured during baseline and the performance of the cognitive paradigm

- EEG frequency bands measured during baseline and the performance of the cognitive paradigm

- Blood pressure (mmHg), measured during baseline and the performance of the cognitive paradigm

- Heart rate (bpm), measured during baseline and the performance of the cognitive paradigm

- Exhaled CO2 (%), measured during baseline and the performance of the cognitive paradigm

- Performance on the cognitive tasks

- Hospital Anxiety and Depression Scale (HADS)

- Short Questionnaire to Assess Health enhancing physical activity (SQUASH)

- Barratt Impulsiveness Scale (BIS-11)

- Cognitive Failure Questionnaire (CFQ) (only older adults group)

- Performance on the additional neuropsychological test battery

Study description

Study objective

This study tests the hypothesis that age has an effect on prefrontal brain activity, measured by fNIRS and EEG, during a cognitive paradigm assessing proactive response inhibition and working memory.

The results of the fNIRS-EEG study will be compared with the results of a fMRI study with the same cognitive paradigm

Study design

Intervention

We will measure cerebral blood flow (with fNIRS) at the prefrontal cortex, and electrical activity (with EEG) at the scalp in young and elderly healthy subjects, during the performance of a working memory task and a response inhibition task. The study has a cross-sectional design and no intervention is applied.

Contacts

Public
Wageningen University, Division of Human Nutrition
P.O. Box 8129
Ondine Rest, van de
Wageningen 6700 EV
The Netherlands
+31 (0)317 485867
Scientific
Wageningen University, Division of Human Nutrition
P.O. Box 8129
Ondine Rest, van de
Wageningen 6700 EV
The Netherlands
+31 (0)317 485867

Eligibility criteria

Inclusion criteria

- Males and females aged 18-35 years (young adults group)

- Males and females aged 60-75 years (older adults group)

- Right-handed

- Dutch speaking

- Good health (see exclusion criteria)

- Non-smoking (max. 1 cigarette per day)

- Normal or corrected-to-normal vision

- Signed informed consent available

Exclusion criteria

- Mini-Mental State Examination (MMSE) score ¡Ü 26 (older subjects group)

- Estimated IQ < 85 (based on Nederlandse Leestest voor Volwassenen [NLV]-score)

- Colour blindness

- Current or past psychiatric disorder, such as psychosis or major depression.

- Current or past neurological disorder, such as severe cerebral vascular disease (e.g. cortical stroke, subarachnoid hemorrhage), Parkinson¡¯s disease, epilepsy, traumatic brain injury, central nervous system infection, brain tumor, and alcoholic encephalopathy

- Current or past severe systemic disease such as coronary artery disease, myocardial infarction <6 months, heart failure (unstable), chronic obstructive pulmonary disease (unstable)

- Type 1 or type 2 diabetes mellitus

- Previous head surgery

- Excessive alcohol use (on average >3 consumptions per day)

- Recurrent migraine

- General medical conditions, such as repetitive strain injury (RSI), which may confound the results of the study, as judged by the investigator

- Use of psychopharmacological drugs (anxiolytics, antidepressants, antipsychotic drug, long-acting benzodiazepines etc.)

- Use of cardiovascular drugs (including antihypertensives)

- Current participation in another study or previous participation in the fMRI study of the Donders Institute of Brain, Cognition and Behaviour, Nijmegen.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Parallel
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-07-2014
Enrollment:	40
Type:	Actual

Ethics review

Positive opinion

Date:	10-06-2014
Application type:	First submission

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
NTR-new	NL4137

Register	ID
NTR-old	NTR4641
Other	CMO Regio Arnhem-Nijmegen : 2014/029

Study results