Neurocognitive and neuroimaging factors explaining differences in drug use in at-risk cannabis users.

Published: 18-07-2008
Last updated: 11-05-2024

We aim at investigating the role of different neurocognitive and neuroimaging factors in the course of drug use in at-risk cannabis-users. We intend to delineate how (1) decision making (2) working memory, (3) cue-reactivity, (4) the underlying...

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

Summary

ID

NL-OMON32254

Source
ToetsingOnline

Brief title
explanatory factors of differential drug use

Condition

- Other condition
- Psychiatric disorders NEC

Synonym
cannabis addiction/ cannabis dependance

Health condition

middelen afhankelijkheid (cannabis)

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Dutch Addiction Program (ZonMw)

Intervention

Keyword: Cue-reactivity, Decision making, Marijuana use, Neuroimaging

Outcome measures

Primary outcome

Personality characteristics, behavioural scores, brainactivity, and brain

connectivity.

Secondary outcome

not applicable

Study description

Background summary

To date very little is known about factors that predict the course of drug use and transition of drug use into drug abuse and dependence in the general population. At the same time knowledge about these factors is crucial for the development of effective prevention strategies. Cannabis is the most commonly used illegal drug in most countries and progression into use of other illegal drugs is frequently observed. Few investigations, however, have addressed the possible predictors of the trajectory of cannabis use and the potential progression into other drug use. It is suggested that addictive behaviour develops due to an imbalance between an approach-oriented motivational system and a regulatory executive system. This view is supported by an abundance of studies evidencing diminished neurocognitive functions and underlying altered patterns of brain activity related to both the motivational system and regulatory executive system in substance dependent populations compared to normal controls. These observed diminished neurocognitive functions and the underlying altered patterns of brain activity have been shown important predictors for relapse and treatment outcome in substance dependent populations. So far, however, the role of these different neurocognitive and neuroimaging factors in the development of addiction remains largely suggestive. To what extend they are involved in the course of drug use and the

possible transition into dependence is not known.

Study objective

We aim at investigating the role of different neurocognitive and neuroimaging factors in the course of drug use in at-risk cannabis-users. We intend to delineate how (1) decision making (2) working memory, (3) cue-reactivity, (4) the underlying abnormal brain responses during performance of these tasks, and (5) structural connectivity relate to the course of marijuana use in at-risk cannabis users, in a longitudinal, prospective fMRI study.

Study design

The participants will be subjected to questionnaires and standardised diagnistic interviews. Further, neurocognitive tasks will be performed, functional and structural MRI scans will be recorded, a DTI scan will be recorded, and urine will be tested onces for drug trails. There will be a follow-up interview after both 3 and 6 months.

Study burden and risks

This research requires 6 hours of each participant (e.g. one 4h part at the AMC, a pre-screening of max 1h, and 2 follow-up interviews by phone of each max 30 minutes) and can be considered non-invasive. There are no known risks of undergoing MRI. We consider the new knowledge about the development of addiction and the course of drug-use resulting from this research of great importance. The focus of this project will be factors involved in the development of addiction and therefore it is of direct concern for the development of new treatments and prevention strategies of addiction.

Contacts

Public
Academisch Medisch Centrum

Meibergdreef 5
1105 AZ AMSTERDAM
NL
Scientific
Academisch Medisch Centrum

Meibergdreef 5
1105 AZ AMSTERDAM
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

Male or Female, age 18-25 years, right handed;At-risk cannabis user group: 10-30 marijuana use episodes in the previous month and at least 240 marijuana use episodes in the past 2 years.;Control group 1: matched on gender and ethnicity to the cannabis user group with 1-50 lifetime marijuana use episodes (Pope et al. 2001).;Control group 2: matched on gender and ethnicity to the cannabis user group with 0 lifetime marijuana use episodes (Pope et al. 2001).

Exclusion criteria

Cannabis user group: seeking treatment or a history of treatment.
Control group 1: cannabis use during the past year. (This will be verified by urinalysis.)
Control group 2: cannabis use or ever used.
The following exclusion criteria will be in effect for all groups:
Score of more than 10 on the AUDIT screening questionnaire for alcohol related problems (Saunders et al. 1993).
Smoking more than one pack of tobacco cigarettes per day.
Current use of prescription or illicit psychoactive drugs other than marijuana.
More than 100 lifetime uses of any non-cannabinoid class of drug of abuse (Kouri et al. 1999; Pope et al. 2001).
Trying to stop alcohol or tobacco use.
Unstable medical illness (e.g., hypertension, diabetes, myocardial infarction).
Current Axis I psychiatric disorder.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	03-06-2008
Enrollment:	70
Type:	Actual

Ethics review

Approved WMO

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	NL22733.018.08