Environmental and genetic influences on adolescent alcohol use: Insight into an etiological mechanism

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

Summary

ID

NL-OMON32429

Source
ToetsingOnline

Brief title
Parental and genetic effects on adolescent alcohol use

Condition

- Other condition

Synonym
alcohol use, drinking, substance use

Health condition

middelengebruik (alcohol)

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: Subsidie voor "Genes;family environment;and gene-family environment interactions as predictors of adolescent alcohol use" (40005051)

Intervention

Keyword: adolescence, alcohol, gene-environment interactions, impulsivity

Outcome measures

Primary outcome

Phase 1: ethnicity, alcohol use, parental alcohol-specific rule-setting.

Phase 2: alcohol use, impulsivity

Secondary outcome

Parental alcohol use, general parental monitoring, adolescent sensation seeking

Study description

Background summary

Alcohol use among adolescents is omnipresent and can have deleterious short and long term consequences. Family and twin studies have shown that a genetic component is involved in alcohol use. Gene-phenotype association studies, however, have not shown consistent results, possibly because environmental factors are often not included. Examining gene-environment interactions is thus very important if the aim is to gain more insight into the etiological risk factors of alcohol use among adolescents.
The dopaminergic reward system in the brain plays an important role in the rewarding effects of alcohol. Also the serotonergic system has received much attention in the research for etiological factor in adolescent alcohol use.
With regard to environmental factors, former research at the Radboud University has shown that adolescents consume less alcohol if their parents apply high levels of alcohol-specific rules. A former study already showed that adolescents carrying a mutation in a dopaminergic gene (the dopamine D2 receptor gene; DRD2) drank more alcohol if their parents were permissive towards alcohol. The mechanism behind this effect is still largely unknown, however. As impulsivity is related to the both dopaminergic and serotonergic

genes, but also to alcohol use, it could serve as an endophenotype in the relationship between dopaminergic/serotonergic genotypes and alcohol use.

Study objective

In this study the interaction between dopaminergic and serotonergic genes and parental rule-setting on adolescent alcohol use and impulsivity will be examined. The main aim is to gain more knowledge regarding the mechanism behind the interaction effect between the dopaminergic/serotonergic genotypes and parental rules on alcohol consumption among adolescents.

Study design

The present study consists out of two phases. In the first phase, approximately 350 adolescents will fill in a very short questionnaire. This will only take approximately 5 minutes. In phase 2, based on the questionnaire data of phase 1, approximately a 100 adolescents will be selected and asked to participate in the second phase of the study. The second phase exists of two school hours (a double block or two separate school hours), in which questionnaires are filled out, computer assignments are carried out, and saliva samples are collected for DNA testing.

Study burden and risks

The present study does nog cause any risks and only a very small burden for the participants. Participants are asked to fill out a couple of questionnaires and carry out computer tasks in 2 school hours (1 double block or 2 separate school hours). Also, participants are asked to fill an oragene pot with saliva. No invasive operations are carried out.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Adolescents (16-17 years)

Inclusion criteria

13-15 years old
of Dutch (Caucasian) descent
low on parental alcohol-related rules
high on parental alcohol-related rules
HAVO/VWO level of education

Exclusion criteria

Being older than 15 or younger than 13 years old
Of non-Dutch (Caucasian) descent
Scoring on average at parental alcohol-related rules
Lower levels of education than HAVO/VWO

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	18-02-2010
Enrollment:	100
Type:	Actual

Ethics review

Approved WMO

Date:	17-02-2010
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

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	NL30197.091.09