Dietary changes and markers of stress and depression in freshman bachelor students at Wageningen University

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

Summary

ID

NL-OMON53272

Source
ToetsingOnline

Brief title
Wageningen Student Cohort

Condition

- Other condition

Synonym
mental health, nutritional status

Health condition

stress, despressie en voedingsstatus

Research involving
Human

Sponsors and support

Primary sponsor: Wageningen Universiteit
Source(s) of monetary or material Support: interne gelden

Intervention

Keyword: depression, nutritional status, plant-based diet, stress

Outcome measures

Primary outcome

The main endpoints are changes in dietary habits towards a plant-based diet and changes in stress levels. Diet changes will be expressed as changes in defined meat-based diet categories (questionnaire) and as changes in the consumption of plant protein as a percentage of total protein (FFQ). Stress levels will be assessed with two questionnaires and one biomarker (hair cortisol). Urinary serotonin concentrations will be used as a potential marker for depression and compared to scores on the validated HADS questionnaire for depression and anxiety.

Secondary outcome

To assess the nutritional impact of dietary changes, nutritional status over time will be measured crudely as Hb from a capillary (finger) blood sample in all participants and more in-depth (vitamins B6, B12, D, and folic acid) for those who provide a venous blood sample. In the fecal sample at baseline and 6 months, pH as a marker of fermentation will be measured. To adjust for confounding variables, additional lifestyle questionnaires and anthropometry will be used. Measurements at 3 and 9 months will be used to study timing of changes.

Study description

Background summary

Student life is an important phase in making dietary and lifestyle choices. Based on concerns about animal welfare and climate change, some students decide to become vegetarian or vegan. This may be especially true for students in Wageningen, which holds the title of most sustainable university in the world. Reducing meat and dairy intake may promote health but may also result in dietary deficiencies or being underweight. Together with social pressure to adopt a more plant-based lifestyle, this could increase the risk of mental stress in their first year at university. Therefore, we will assess dietary changes and stress and depression in first-year bachelor students and explore potential associations for future observational studies.

Study objective

Our first primary research objective is to investigate if and how students are changing their diet toward a more plant-based diet. Our second primary objective is to assess changes in stress by using subjective methods (questionnaires) and a biomarker (hair cortisol concentrations). Our secondary objective is to investigate changes in nutritional status, depression and anxiety using a questionnaire, and urinary serotonin as a potential biomarker for depression, and to explore associations between diet and stress and depression outcomes. To adjust for confounders, other lifestyle factors including physical activity and sleep will be assessed.

Study design

We will perform a prospective cohort study with baseline data at recruitment and repeated follow-up data at 3, 6, and 9 months. At each time point, participants fill out online questionnaires and visit the Human Nutrition Research Unit (HNRU) for anthropometry, a finger prick, hand grip measurement and a hair sample. In addition, at baseline and 6 months, participants will be asked to bring urine and feces samples (collected at home). Optionally, participants can give an additional (non-fasting) venous blood sample at their baseline and 6 month-visit for a NutriProfiel test.

Study burden and risks

Subjects will be invited to the Human Nutrition Research Unit four times in one year (every three months) for anthropometry, a finger prick blood test, the collection of a hair sample and an optional venous blood sample (~30 min per visit). Filling out online diet and lifestyle questionnaires will take about two hours and will be repeated four times in one year. Urine and fecal samples

will be collected at home at baseline and at 6 months. There are only minor risks for the participants, relating to the finger prick and (optional) blood withdrawals. Subjects will receive a financial compensation of ¤85 per year and ¤95 if they choose for the extra venous blood sample. To increase motivation and response, students will be paid per time point. As a further incentive, they will receive their personal diet and lab data.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (16-17 years)
Adults (18-64 years)

Inclusion criteria

- First-time enrolled in a bachelor study at Wageningen University
- Aged 16 years or older during the AID
- Dutch-speaking

Exclusion criteria

None

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	19-10-2023
Enrollment:	225
Type:	Actual

Ethics review

Approved WMO Date:	10-10-2023
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	20-06-2024
Application type:	Amendment
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	NL84821.091.23