Relative energy cost of walking, and physical activity levels of people with intellectual disabilities.

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

Summary

ID

NL-OMON42939

Source
ToetsingOnline

Brief title
Relative energy cost of walking in ID

Condition

- Other condition

Synonym
intellectual disability, mental handicap

Health condition

verstandelijke beperking

Research involving
Human

Sponsors and support

Primary sponsor: Afd. Huisartsgeneeskunde Erasmus MC
Source(s) of monetary or material Support: EU Marie Curie Fellowship

Intervention

Keyword: intellectual disabilities, maximal oxygen uptake, physical activity, walking

Outcome measures

Primary outcome

Maximal oxygen uptake during a maximal treadmill exercise test, oxygen uptake

during comfortable walking overground and on a treadmill.

Secondary outcome

Physical activity levels and type of physical activity with physical activity

monitors and physical activity questionnaires.

Study description

Background summary

People with ID demonstrate different gait patterns and impaired motor control. Since walking is the most commonly reported type of physical activity in the ID population, we suspect that a higher energy cost during walking might cause people with ID to avoid activities and experience fatigue, and thus contribute to their low physical activity levels. In people with motor disabilities, neither maximal oxygen uptake, nor the oxygen uptake during walking proved to be related to physical activity levels, but physical strain (the oxygen uptake during walking expressed as a percentage of the VO2max) was significantly related: people with high physical strain during walking were likely to walk less in daily life.

Study objective

The primary objective of this research proposal is to determine the differences in maximal oxygen uptake and the oxygen uptake during walking between people with ID and age- and gender-matched non-disabled controls, and how differences in oxygen uptake correlate with physical activity levels of people with ID,

compared to non-disabled controls. We will also determine the agreement between the oxygen uptake and the physical activity monitor output during walking in adults with ID and the validity of two physical activity questionnaires when compared to the physical activity monitor output of physical activity in adults with ID.

Study design

This study has a cross-sectional research design. Participants will visit the Clinical Movement Lab of the Erasmus MC University Medical Center twice, with at least 1 week in between, while wearing an activity monitor in the time between the two visits.

Study burden and risks

The participants will visit the laboratory twice and wear physical activity monitors in between the two vistis. During maximal aerobic exercise on the treadmill, oxygen uptake is monitored to determine cardiovascular capacity. Oxygen uptake is also measured during comfortable walking overground and on the treadmill, at different speeds. Differences with the participants without ID will be analyzed. The hypothesized physiological barriers to be physically active, and the physiological mechanisms underlying the differences in oxygen uptake, are fundamentally related to having an intellectual disability, and this research project will therefore be carried out in, and benefit this specific group. There will be no direct benefit to the subjects for participating in this research. Due to thorough screening beforehand, only participants with low risk will participate in maximal exercise testing.

Contacts

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Selecteer

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

- Between 18-45 years old
- For the ID group: mild (IQ between 50-70) or moderate (IQ between 35-49) intellectual disability.
- Informed consent from participant or legal representative

Exclusion criteria

- presence of any known genetic syndrome causing ID
- use of walking aids
- history of cardiovascular disease, diabetes or any other metabolic disease that may affect the resting and exercise measures
- Inflammatory disease, such as arthritis
- Asthma or other significant respiratory disorders
- Cancer in the last six months
- Any heart-rate or blood pressure altering medications or any other medication that may alter metabolic responses
- Smoking
- Any contraindications to exercise, assessed with the revised Physical Activity Readiness Questionnaire [15, 16], and in case of doubt checked with the participants* physician.

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:	Prevention

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	13-02-2017
Enrollment:	62
Type:	Actual

Ethics review

Approved WMO

Date:	15-12-2016
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

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	NL59715.078.16