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SmartMoves - a pilot study

Submission date 10/06/2014	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol
Registration date 07/08/2014	**Overall study status** Completed	[_] Statistical analysis plan [X] Results
Last Edited 05/01/2016	**Condition category** Other	[_] Individual participant data

Plain English summary of protocol

Background and study aims
Physical activity (exercise) isnt just good for a child's health. Research has shown that physical education (PE) and physical activity can also improve academic performance. However, to date, there have been few studies looking into the effects of physical activity on the cognitive functioning (for example thinking, remembering, judging, and problem-solving) in children. Furthermore, the effects of prolonged sitting on the cognitive functioning of children has never been properly investigated, or indeed how physical activity (or prolonged sitting) affects children s cardiometabolic health (i.e. their risk of developing heart disease or diabetes). Here, we are going to look into how feasible it is to set up a study to measure the effect of physical activity on the cognitive functioning of children when at school.

Who can participate?
Dutch speaking, healthy children between the ages of 10 and 13.

What does the study involve?
All participating children eat the same breakfast in the morning. They are then randomly allocated into one of three groups. Those in group A sit for a prolonged period in their classroom at school (all morning). Those in group B also sit in their classroom, but with an active break (where the children do a physical activity) halfway through the morning. Those in group C start the day with a physical activity, then sit down in their classroom with an active break halfway through the morning. Blood samples are taken from all the children just before they eat their breakfast and then at the end of the morning. They all take part in cognitive functioning tests at various times throughout the morning.

What are the possible benefits and risks of participating?
There is very little risk to taking part in this study. Blood samples are collected using a fingerprick method, a commonly used technique with few risks.

Where is the study run from?
Department of Public and Occupational Health, VU University Medical Centre, Amsterdam (Netherlands)

When is the study starting and how long is it expected to run for?
June 2013 to June 2014

Who is funding the study?
EMGO Institute for Health and Care Research (Netherlands)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
NL43909.029.13

Study information

Scientific Title
Physical activity, sitting and cognition a pilot study

Study objectives
We hypothesized that both one as well as two bouts of moderate-intensity physical activity would enhance childrens selective attention, with larger effects for repeated bouts, when compared to sitting the whole morning.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Medical Ethics Committee of the VU University Medical Center, Amsterdam (The Netherlands), 17/12/2013

Primary study design
Interventional

Study design

Randomised pilot study

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
Physical activity, cognitive functioning

Interventions
Group A - prolonged sitting
Group B - sitting with an active break halfway the morning
Group C - day start with physical activity, then sitting with an active break halfway the morning

Intervention Type
Behavioural

Primary outcome(s)
Selective attention according to the TEA-CH test, measured at baseline, after 20, 110, 130 and 220 minutes

Key secondary outcome(s)
Fasting blood levels of C-peptide, triglycerides and cholesterol, measured at baseline, after 20, 110, 130 and 220 minutes

Completion date
01/06/2014

Eligibility

Key inclusion criteria
1. Aged between 10-13 years
2. Apparently healthy
3. Dutch speaking

Children were requested to refrain from any moderate-to-vigorous physical activity (MVPA) for at least 3 days prior to the experiment.

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Child

Lower age limit
10 Years

Upper age limit

13 Years

Sex
All

Key exclusion criteria
1. Known physical activity contraindications
2. Major illness/injury (acute or chronic)
3. Physical problems that may limit the ability to perform the experiment
Participants will be screened by a health check questionnaire.

Date of first enrolment
01/06/2013

Date of final enrolment
01/06/2014

Locations

Countries of recruitment
Netherlands

Study participating centre
van der Boechorststraat 7
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1081 BT

Sponsor information

Organisation
EMGO Institute for Health and Care Research (Netherlands)

ROR
https://ror.org/0258apj61

Funder(s)

Funder type
University/education

Funder Name

EMGO Institute for Health and Care Research, VU University Medical Center (Netherlands)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/10/2016		Yes	No