

Does exercise training result in weight loss?

Submission date 20/11/2018	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
Registration date 04/01/2019	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 27/02/2023	Condition category Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Physical activity or exercise, by increasing the energy expended during the day, would appear to be an efficient tool to prevent and possibly treat obesity. However, the impact of exercise on body weight and composition is often much less than anticipated. Lean individuals who are regular exercisers usually maintain a stable body weight, but this study aimed to determine whether this was also the case for obese individuals.

Who can participate?

Women who are overweight or obese.

What does the study involve?

Participants had to train for 3-months at a low or high intensity and expend 1500 kcal per week.

What are the possible benefits and risks of participating?

Participating in the study allowed participants to access a gym for free and get more active.

Where is the study run from?

University of Ottawa

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

September 2010 to December 2012

Who is funding the study?

University of Ottawa

Who is the main contact?

Éric Doucet

edoucet@uottawa.ca

Study website

N/A

Contact information

Type(s)

Scientific

Contact name

Dr Éric Doucet

Contact details

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

N/A

Study information**Scientific Title**

Comparing high and low intensity supervised exercise interventions on energy compensation in overweight or obese women : a randomised parallel trial

Study objectives

Women training at high intensity will have higher energy compensation across the intervention due to greater energy intake. Non-structured physical activity will decrease more in women training at high intensity vs lower intensity.

Ethics approval required

Old ethics approval format

Ethics approval(s)

University of Ottawa Ethics Committee, 24/01/2011, H10-10-03

Study design

Interventional single-centre repeated measures randomised parallel trial

Primary study design

Interventional

Secondary study design

Randomised parallel trial

Study setting(s)

Other

Study type(s)

Treatment

Participant information sheet

Not available in web format, please use the contact details to request a participant information sheet

Health condition(s) or problem(s) studied

Overweight and obesity in women

Interventions

We conducted a 3-month exercise training program at a low or high intensity. Participants had to train 5 times per week and had to achieve 300 kcal per exercise session for a total of 1500 kcal /week. Participants were tested (during 7-day) 1 month before the exercise intervention; a 14-day phase at the onset of the exercise intervention (wk 1, wk 2); and a 7-day phase at the end of the 3-month exercise intervention (wk 12).

Intervention Type

Behavioural

Primary outcome measure

The following were assessed during 3 data collection phases - a 7 day baseline phase (1 month prior to the exercise intervention), a 14 day phase at the beginning of the intervention, and a 7 day phase at the end of the intervention (after 3 months):

1. Energy intake, assessed using lunch boxes and a food journal (according to McNeil et al., 2012)
2. Energy expenditure, assessed using doubly labelled water (according to Schoeller and van Santen, 1982).
3. Body composition, assessed using dual X-ray absorptiometry

Secondary outcome measures

The following were assessed during 3 data collection phases - a 7 day baseline phase (1 month prior to the exercise intervention), a 14 day phase at the beginning of the intervention, and a 7 day phase at the end of the intervention (after 3 months):

1. Appetite, assessed using a visual analogue scale (VAS)
2. Eating behaviour traits, assessed using the Three-Factor Eating Questionnaire (TFEQ)
3. Food rewards, assessed using the Leeds Food Preference Questionnaire (LFPQ)
4. Time spent performing activities, assessed using an accelerometer

Overall study start date

01/09/2010

Completion date

11/12/2012

Eligibility

Key inclusion criteria

1. Aged 20-45 years
2. Female
3. Stable weight for the last 2 months
4. Body mass index (BMI) $>30 \text{ kg/m}^2$
5. Sedentary (no more than 2 hours of structured physical activity per week)
6. Menstrual periods every month

Participant type(s)

Healthy volunteer

Age group

Adult

Sex

Female

Target number of participants

21 participants (11 in the low intensity group and 10 in the high intensity group)

Total final enrolment

21

Key exclusion criteria

1. Pregnancy
2. Smokers
3. Drug users
4. Consuming more than 2 units of alcohol per day
5. Claustrophobic
6. Use of nutritional supplements
7. Not using oral contraceptives or hormones
8. Diabetic (type 1 or type 2)
9. Thyroid disorders
10. Renal disease
11. Liver disease
12. Cancer
13. Inflammatory disease
14. Asthma
15. Respiratory problems
16. Cardiovascular disease
17. Peripheral vascular disease
18. Stroke
19. Orthopaedic limitations
20. Using any of the following:
 - 20.1. Systemic corticosteroids (e.g. prednisone)
 - 20.2. Anti-obesity agents (e.g. Xenical®, Meridia®)
 - 20.3. Natural supplemented for weight loss or weight control (e.g. Megace)
 - 20.4. Antipsychotics
 - 20.5. Mood stabilisers or antidepressants that have a significant impact on weight (e.g. Zyprexa®, Remeron®)
 - 20.6. Diuretics (e.g. Lasix®, furosemide)

21. Treatment with thyroid hormones (stable dose for at least 3 months before the start of the study)

22. Use of thiazide diuretics (hydrochlorthiazide) for less than 3 months

Date of first enrolment

25/01/2011

Date of final enrolment

11/09/2012

Locations

Countries of recruitment

Canada

Study participating centre

University of Ottawa

Behavioural and Metabolic Research Unit (BMRU), School of Human Kinetics, Faculty of Health Sciences, University of Ottawa, Ottawa, Ontario, Canada.

Ottawa

Canada

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Sponsor information

Organisation

University of Ottawa

Sponsor details

School of Human Kinetics

Ottawa

Canada

K1N 6N5

Sponsor type

University/education

Website

uottawa.ca

ROR

<https://ror.org/03c4mmv16>

Funder(s)

Funder type

Other

Funder Name

Investigator initiated and funded

Results and Publications

Publication and dissemination plan

The full study is currently under review at Frontiers in Physiology.

Intention to publish date

26/11/2018

Individual participant data (IPD) sharing plan

The datasets generated and/or analysed during the current study are available on request from Marie-Ève Riou (mriou039@uottawa.com). All the data is already collected and is in binders in a locked room. The consent forms for each individual are kept in a separate binder in another locked room. Participant anonymity in the data is fully respected and names are not included.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Basic results		05/12/2018	04/01/2019	No	No
Results article		22/08/2019	27/02/2023	Yes	No