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Does exercise training result in weight loss?

Submission date
20/11/2018

Recruitment status
No longer recruiting

Registration date
04/01/2019

Overall study status
Completed

Last Edited
27/02/2023

Condition category
Nutritional, Metabolic, Endocrine

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] 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?
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Contact information

Type(s)
Scientific

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Additional identifiers

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

Primary study design
Interventional

Study design
Interventional single-centre repeated measures randomised parallel trial

Study type(s)
Treatment

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(s)
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

Key secondary outcome(s)
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

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 kg/m²
5. Sedentary (no more than 2 hours of structured physical activity per week)
6. Menstrual periods every month

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Sex
Female

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 (hydrochlotozide) 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.
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Sponsor information

Organisation
University of Ottawa

ROR
https://ror.org/03c4mmv16

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

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?
Results article		22/08/2019	27/02/2023	Yes	No
Basic results		05/12/2018	04/01/2019	No	No