Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Compression the effects of pilates traning and the dill supplemention (Anethum graveolens) on serum Irisin levels, Insulin, glucose, insulin resistance and body composition in overweight and obese woman

Protocol summary

Study aim

comparison the effects of Pilates training and dill supplementation on glucose, Insulin, Irisine and insulin resistance in overweight and obese women.

Design

A randomized controlled clinical trial with factorial groups, triple blinded

Settings and conduct

In this study, 40 overweight and obese women will be selected purposefully and were randomly divided into 4 groups (Pilates + dill, Pilates + placebo, dill and placebo). Pilates training will held at sport gym. Blood samples and body composition will be measured 24 hours before and 48 hours after the fasting intervention. participants in this study will be randomized by Throwing the dice

Participants/Inclusion and exclusion criteria

inclusion criteria: female gender; age of 20-45 years old; BMI>25 exclusion criteria past medical history; addiction; pregnancy; being menopause; participating in extra sport classes .

Intervention groups

intervention group1: Pilates + dill Supplementation: (n = 10): Consume (1.1 g) before each meal for six weeks, and do 6 weeks of Pilates training from 16 to 17:30 PM. intervention group2: Pilates + Placebo (n=10) Take a placebo capsule containing starch before each meal and will practice Pilates (for six weeks). intervention group3: Prior to each meal, taking a capsule containing 1.1 g of dill powder for six weeks. Control group: one capsule (1.1 g starch per capsule) filled with edible green starch flour content before any breakfast, lunch, dinner time.

Main outcome variables

Irisin; insulin resistance insulin glucose

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191111045412N1**
Registration date: **2020-02-22, 1398/12/03**
Registration timing: **prospective**

Last update: **2020-02-22, 1398/12/03**
Update count: **0**

Registration date

2020-02-22, 1398/12/03

Registrant information

Name

Nafiseh Nasirian

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 56 3220 3164

Email address

nafiseh.nasirian@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-03-15, 1398/12/25

Expected recruitment end date

2020-04-13, 1399/01/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
Compression the effects of pilates traning and the dill supplemention (Anethum graveolens) on serum Irisin levels, Insulin, glucose, insulin resistance and body composition in overweight and obese woman

Public title
The effect of Pilates training and the dill Supplement on obesity

Purpose
Supportive

Inclusion/Exclusion criteria

Inclusion criteria:
Being female Being at the age of 20-45 years old BMI>25

Exclusion criteria:
Past medical history of an underlying disease addiction menopose

Age
From **25 years** old to **45 years** old

Gender
Female

Phase
N/A

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
Participants in this study was randomized by throwing the dice

Blinding (investigator's opinion)
Triple blinded

Blinding description
participants, data collectors, outcome assessors are blinded In this study, after informing all participants about their grouping and study objectives and they will give informed consent, they will randomly categorize to each group. For placebo groups, capsules of the same size and the same weight as the dill capsules will prepared. The data collectors included a laboratory expert, a blood sampler who did not know the procedure of grouping. And all participants will be treated equally on the sampling day.The statistical expert will be unaware of the participants' identities and the file containing the data and groups will given to him/her.

Placebo
Used

Assignment
Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Birjand University of Medical Sciences

Street address
Ghaffari street

City
Birjand

Province
South Khorasan

Postal code
۹۷۱۷۸۵۳۵۷۷

Approval date
2018-07-23, 1397/05/01

Ethics committee reference number
IR.BUMS.REC.1397.129

Health conditions studied

1

Description of health condition studied
over weight and obesity

ICD-10 code
E66

ICD-10 code description
Overweight and obesity

Primary outcomes

1

Description
serum irisin level

Timepoint
6 weeks after intervention starts

Method of measurement
elisa kit(CK-E90905, Made in USA)

2

Description
insulin resistance

Timepoint
6 weeks after intervention starts

Method of measurement
HOMA-IR formula

3

Description
Body composition

Timepoint
6 weeks after intervention starts

Method of measurement
Body composition including weight, body mass index, percentage of fat, protein, water and bone density of body, fitness score measured by Body composition

analyzer made by South Korea

4

Description
glucose
Timepoint
6 weeks after intervention starts
Method of measurement
Pars Azmoon kit

5

Description
insulin
Timepoint
6 weeks after intervention starts
Method of measurement
insulin kit of Elecsys andcobas (12179113001v11)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group1: Pilates + dill Supplementation: (n = 10): Consume (1.1 g) before each meal for six weeks, and do 6 weeks of Pilates training from 16 to 17:30 PM.
Category
Treatment - Other

2

Description
Intervention group2: Pilates + Placebo (n=10) Take a placebo capsule containing starch before each meal and will practice Pilates (for six weeks).
Category
Treatment - Other

3

Description
Intervention group 3: Prior to each meal, taking a capsule containing 1.1 g of dill powder for six weeks.
Category
Treatment - Drugs

4

Description
Control group: one capsule (1.1 g starch per capsule) filled with edible green starch flour content before any breakfast, lunch, dinner time.
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
Tak Andam gym center
Full name of responsible person
Nafiseh Nasirian
Street address
Shabanie blvd
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Birjand University of Medical Sciences
Full name of responsible person
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Web page address
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Birjand University of Medical Sciences
Proportion provided by this source
100
Public or private sector
Public
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Birjand University of Medical Sciences
Full name of responsible person
Nafiseh Nasirian
Position
Student
Latest degree
Master
Other areas of specialty/work
Physiology
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A09 block, Imam Ali Town, Birjand
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Undecided - It is not yet known if there will be a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
Part of the data such as information about the primary outcome
When the data will become available and for how long
Start of access period 6 months after printing results
To whom data/document is available
It will be available to researchers working in academic and scientific institutions
Under which criteria data/document could be used
all researchers working in academic and scientific institutions
From where data/document is obtainable
nafiseh.nasirian@gmail.com
What processes are involved for a request to access data/document
after reading their request as soon as possible if the researcher find out the request valid
Comments