

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Effect of supplementation of quercetin on inflammatory factor and adiponectin and gene expression of its receptors in women's PBMC with polycystic ovary syndrome(PCOS)

Protocol summary

Summary

According to investigations, seems to be the first in the world and Iran the Effect of supplementation of quercetin on inflammatory factor and adiponectin and gene expresion. This clinical trial is designed as a double blind. Individuals who wish to participate in the study, and donot problem with quercetin supplementation include in . Inclusion criteria: BMI 25 to 40 - the age range of 20-40 years - according to the Rotterdam conference, at least two of the three criteria listed as having the disease. Features include menstrual irregularities, or clinical symptoms and the presence of polycystic ovaries on ultrasound - Hyperandrogenism. donot use drugs; contraceptive drugs, antihypertensive drugs lower blood lipid and anti-inflammatory drug- and willing to cooperate. Exclusion criteria: Endocrine and metabolic diseases such as hypothyroidism and hyperthyroidism, androgen producing cancer, diabetes mellitus, adrenal hyperplasia and Cushing, ovarian tumor and Hyperprolactinaemia - Smoking - Pregnancy - allergic reaction to supplements - Cancel patient to cooperate in the study. In this study, 84 women (pcos) and in two groups of 42 patients will be enrolled and quercetin supplementation or placebo for 3 months will receive. Groups receiving 1 g daily quercetin supplementation in the form of two tablets of 500 mg after 2 main meals (breakfast and lunch) .. Blood samples were taken before and after the intervention. Blood cells will be separated at the beginning and end of the study.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013112515536N1**

Registration date: **2014-05-14, 1393/02/24**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2014-05-14, 1393/02/24

Registrant information

Name

Mohammad Javad Hosseinzadeh

Name of organization / entity

School of Nutritional Sciences and Dietetics, TUMS

Country

Iran (Islamic Republic of)

Phone

+98 21 8899 3059

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Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Scinces

Expected recruitment start date

2014-01-21, 1392/11/01

Expected recruitment end date

2014-08-23, 1393/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of supplementation of quercetin on inflammatory factor and adiponectin and gene expression of its receptors in women's PBMC with polycystic ovary syndrome(PCOS)

Public title

The effect of quercetin on PCOS patients

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria: BMI 25 to 40 - the age range of 20-40 years - according to the Rotterdam conference, at least two of the three criteria listed as having the disease. Features include menstrual irregularities, or clinical symptoms and the presence of polycystic ovaries on ultrasound – Hyperandrogenism. donot use drugs; contraceptive drugs, antihypertensive drugs lower blood lipid and anti-inflammatory drug- and willing to cooperate. Exclusion criteria: Endocrine and metabolic diseases such as hypothyroidism and hyperthyroidism, androgen producing cancer, diabetes mellitus, adrenal hyperplasia and Cushing, ovarian tumor and Hyperprolactinaemia - Smoking - Pregnancy - allergic reaction to supplements - Cancel patient to cooperate in the study.

Age
From **20 years** old to **40 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **42**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

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

Street address
Sixth Floor-Central Tehran University-Qods St., Keshavarz Blvd-tehran

City
Tehran

Postal code

Approval date
2014-02-15, 1392/11/26

Ethics committee reference number

104428

Health conditions studied

1

Description of health condition studied

Polycystic Ovary Syndrome

ICD-10 code

E28.2

ICD-10 code description

Sclerocystic ovary syndrome Stein-Leventhal syndrome

Primary outcomes

1

Description

Serum adiponectin

Timepoint

Before and after intervention

Method of measurement

Adiponectin ELISA Kit µg / ml

Secondary outcomes

1

Description

Tumor necrosis factor

Timepoint

Before and after intervention

Method of measurement

Serum concentrations of TNFα ELISA kit

2

Description

C-reactive protein

Timepoint

Before and after intervention

Method of measurement

Serum levels of hs-CRP ELISA Kit

3

Description

high-molecular weight adiponectin levels

Timepoint

Before and after intervention

Method of measurement

Adiponectin ELISA Kit µg / ml

4

Description

Glucose

Timepoint

Before and after intervention

Method of measurement

Serum ELISA Kit

5

Description

Insulin

Timepoint

Before and after intervention

Method of measurement

Serum ELISA kit micro mol / l

6

Description

adenosine monophosphate-activated protein kinase

Timepoint

Before and after intervention

Method of measurement

Serum ELISA Kit

7

Description

Adiponectin receptor 1

Timepoint

Before and after intervention

Method of measurement

RT-PCR

8

Description

Adiponectin receptor 2

Timepoint

Before and after intervention

Method of measurement

RT-PCR

9

Description

Testosterone

Timepoint

Before and after intervention

Method of measurement

Serum Elisa kit

10

Description

Progesterone

Timepoint

Before and after intervention

Method of measurement

serum Elisa kit

11

Description

Luteinizing hormone

Timepoint

Before and after intervention

Method of measurement

ELISA kit

12

Description

follicle stimulating hormone

Timepoint

Before and after intervention

Method of measurement

ELISA kit

13

Description

Sex Hormone Binding Globulin

Timepoint

Before and after intervention

Method of measurement

IRMA

14

Description

systolic blood pressure

Timepoint

Before and after intervention

Method of measurement

Pressure set

15

Description

diastolic blood pressure

Timepoint

Before and after intervention

Method of measurement

Pressure set

16

Description

Total cholesterol

Timepoint

Before and after intervention

Method of measurement

Serum total cholesterol concentration turbidometry mg / dl

17

Description

Triglyceride

Timepoint

Before and after intervention

Method of measurement

Serum triglyceride concentrations were enzymatically mg / dl

18

Description

Low-density lipoprotein

Timepoint

Before and after intervention

Method of measurement

LDL-C levels

19

Description

High-density lipoprotein

Timepoint

Before and after intervention

Method of measurement

Serum HDL cholesterol concentration

Intervention groups

1

Description

to the intervention group Quercetin supplements , 1 g daily for 12 weeks as the two tablets of 500 mg after 2 main meals (breakfast and lunch)and should not be taken on an empty stomach.

Category

Treatment - Drugs

2

Description

Patients in the placebo group will receive 12 weeks of placebo quercetin

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Arash Hospital

Full name of responsible person

Street address

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Dr mohammad reza Hadian

Street address

International Campus-tehran university of medical science-porsina ave-ghods street-keshavarz blv-tehran

City

Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Tehran University of Medical Sciences

Proportion provided by this source

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

2

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Dr. Masoud Younesian

Street address

Sixth Floor-Central University,Qods St., Keshavarz Blvd,tehran

City

Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Tehran University of Medical Sciences

Proportion provided by this source

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Neda Rezvan

Position

PhD Student Nutrition

Other areas of specialty/work

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Phone

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Fax

Email

Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty