Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Effect of powdered sumac (Rhus coriaria L) on glycemic control and insulin resistance in patients with type 2 diabetes.

Protocol summary

Summary

The purpose of this study was to investigate the effect of sumac powder on the status of blood glucose 2 hours after a meal, hemoglobin A1C, insulin resistance, serum homocysteine, and HS-CRP in type II diabetic patients. In this randomized, controlled clinical trial, 60 patients with Type II diabetes and eligible applicants are selected for the study. Patients about to get crushed powder 6 g daily for 3 months. After the 3-month intervention period, fasting and 2-hour postprandial serum glucose, hemoglobin A1C, insulin resistance, beta-cell function, serum Homocysteine, and HS-CRP between the two groups will be compared levels.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014050410826N9**
Registration date: **2014-06-14, 1393/03/24**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2014-06-14, 1393/03/24

Registrant information

Name

Azadeh Nadjarzadeh

Name of organization / entity

Shahid Sadoughi University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Research Council of Yazd University of Medical Sciences

Expected recruitment start date

2014-05-17, 1393/02/27

Expected recruitment end date

2014-07-23, 1393/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of powdered sumac (Rhus coriaria L) on glycemic control and insulin resistance in patients with type 2 diabetes.

Public title

Effect of sumac powder on type 2 diabetes

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: individuals between 30 and 60 years of their diabetes diagnosed diabetes center and at least 3 years of getting passed; lack of disorders and diseases of the liver and biliary and renal disorders; no professional athletes; not taking antioxidant supplements, selenium, zinc, beta carotene, omega-3 and at least 3 months before the study began; no alcohol; the willingness of patients to participate in the study; refusing to participate in other research projects; no change in dose or type of medication; do not use insulin. Exclusion criteria: those who consume less than 80 percent were crushed packages; people who have changed the type and dose of your medication; the patient's unwillingness to continue the study; start taking any antioxidant supplement; recent receiving insulin; to become

pregnant during the study; diseases of liver and biliary and renal dysfunction during the study.

Age
From **30 years** old to **60 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research Ethics Committee of the Medical University of Yazd

Street address
Yazd University of Medical Sciences, Daneshjoo blv.

City
Yazd

Postal code
8916189165

Approval date
2013-12-08, 1392/09/17

Ethics committee reference number
17/1/171485/پ

Health conditions studied

1

Description of health condition studied
Type 2 Diabetes

ICD-10 code
E11

ICD-10 code description
Non-insulin-dependent diabetes mellitus

Primary outcomes

1

Description
Fasting blood sugar

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
Glucose oxidase method

2

Description
Glycosylated hemoglobin

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
Spectrophotometric

3

Description
Insulin

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
IRMA

4

Description
Insulin Resistance

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
(glucose × insulin)/22.5

5

Description
Blood sugar levels two hours after a meal

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
Glucose oxidase method

6

Description
Beta-cell function

Timepoint
Before the intervention and after the intervention (3 months later)

Method of measurement
The amount of beta-cell function=(Fasting insulin × 20) / (fasting glucose, -3.5)

Secondary outcomes

1

Description
Added at 2016-11-29: HS-CRP
Timepoint
Added at 2016-11-29: At the beginning and the end of study period
Method of measurement
Added at 2016-11-29: 10 ml blood sample

Intervention groups

1

Description
Control group:take 2 cup low-fat yogurt daily without sumac for 3 months with lunch and dinner
Category
Placebo

2

Description
Intervention group: Daily for 3 months, 6 grams of powdered sumac two servings (1 sachet 3 grams with lunch and one sachet 3 grams with dinner) was mixed with low-fat yogurt are used.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Ardakan Diabetes Center(Clinic Mehr)
Full name of responsible person
Mohammad Reza Fatahi Ardakani
Street address
Alley Civil Registration office, Beheshti Boulevard
City
Ardakan

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Research Council of Yazd University of Medical Sciences
Full name of responsible person
Fatemeh Ezzedini Ardekani
Street address
Maxillofacial Radiology, Faculty of Dentistry, Imam Street
City
Yazd
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Research Council of Yazd University of Medical Sciences
Proportion provided by this source
100
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
Yazd University of Medical Sciences
Full name of responsible person
Azadeh Najarzadeh
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Other areas of specialty/work
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Person responsible for updating data

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Position

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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