

Clinical Trial Protocol

Iranian Registry of Clinical Trials

25 Jun 2026

Effects of Broccoli Sprouts Powder on Fasting Blood Sugar, Lipid Profile and Oxidative Stress Index in Type 2 Diabetic Patients

Protocol summary

Summary

Type 2 diabetes is a prevalent metabolic disorder and has several complications affecting the vascular system. Broccoli sprouts rich is a source of sulforaphane with high antioxidant activity. Cell culture and animal studies showed that sulforaphane prevents diabetic vascular complications and improve lipid profile, but little is known about the direct effects of broccoli sprouts in diabetic patients. The purpose of this study is to investigate effects of broccoli sprouts powder (BSP) on fasting blood sugar, lipid profile and oxidative stress index. This study is a randomized double blind clinical trial. Fifty type2 diabetic patients will be recruited from an endocrine clinic and randomly will be assigned into 2 groups, the BSP and the placebo. Subjects in the BSP and the placebo groups will consume 10g/d BSP and corn starch powder for 4 weeks, respectively. For all subjects, medical history, 3 consecutive 24-h dietary recalls, and physical activity questionnaire will be collected and anthropometric measurements will be recorded at baseline and 4 weeks after supplementation. Also, a 14 hour overnight fasting blood sample will be taken for biochemical analysis, including fasting blood sugar, cholesterol, triglycerides, LDL-C, HDL-C, total antioxidant capacity and total oxidant status.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138901181640N2**
Registration date: **2010-09-02, 1389/06/11**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2010-09-02, 1389/06/11

Registrant information

Name

Parvin Mirmiran

Name of organization / entity

Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Me

Country

Iran (Islamic Republic of)

Phone

+98 21 2243 2500

Email address

mirmiran@endocrine.ac.ir

Recruitment status

Recruitment complete

Funding source

Obesity Research Center, Research Institute for Endocrine Science, Shahid Beheshti University of Medical Sciences

Expected recruitment start date

2010-04-30, 1389/02/10

Expected recruitment end date

2010-09-30, 1389/07/08

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of Broccoli Sprouts Powder on Fasting Blood Sugar, Lipid Profile and Oxidative Stress Index in Type 2 Diabetic Patients

Public title

Broccoli sprouts powder and diabetes

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion Criteria: •Patients suffering from NIDDM,

according to present criteria for diagnosis of NIDDM.
Exclusion Criteria: •Pregnant or breastfeeding women
•Women of childbearing age with no safe method of
contraception •Patients receiving vitamin K-antagonists,
steroid hormones,antioxidant supplement •Patients with
chronic liver,renal,respiratory disease •Patients with
chronic or acut inflamation

Age

From **18 years** old to **50 years** old

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **50**

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, Research Institute For Endocrine
Sciences, Shahid Beheshti University of Medical S

Street address

#24, Parvaneh st, Yemen st, Chamran Exp

City

Tehran

Postal code

Approval date

empty

Ethics committee reference number

306EC

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

hyperglycemy, lipid profile disorder, oxidative stress

Timepoint

4 weeks

Method of measurement

biochemistry analysiss

Secondary outcomes

1

Description

decrease of blood glucose, improve lipid profile, improve
oxidant/antioxidant status

Timepoint

4 weeks

Method of measurement

biochemistry analysis

Intervention groups

1

Description

broccoli sprouts powder, 10g/d

Category

Other

2

Description

corn starch powder, 10g/d

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Diabetes Clinic of Taleghani Hospital

Full name of responsible person

Street address

City

Tehran

2

Recruitment center

Name of recruitment center

Iran Diabetes Association

Full name of responsible person

Street address

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences

Full name of responsible person

Parvin Mirmiran

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Research Institute For Endocrine Sciences, #24 Parvaneh st, Yemen st, Chamran Exp

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Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Research Institute for Endocrine Sciences, Shahid Beheshti 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**

Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Me

Full name of responsible person

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Position

Ph.D of Nutrition Sciences

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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