Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Sep 2026

Effects of Broccoli Sprouts Powder on Fasting Blood Suger, 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
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Iran (Islamic Republic of)
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+98 21 2243 2500
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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 Suger, Lipid Profile and Oxidative Stress Index in Type 2 Diabetic Patients

Public title

Broccoli sprots 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
decrese 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

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

City
Tehran

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
Parvin Mirmiran

Position
Ph.D of Nutrition Sciences

Other areas of specialty/work

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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