

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Apple cider Vinegar Effect on Postprandial Glycemia in Patients With Type 2 Diabetes

Protocol summary

Summary

Postprandial hyperglycemia may lead to progression of atherosclerosis and occurrence of cardiovascular events. An early report showed that vinegar attenuated the glucose and insulin responses to a sucrose or starch load. The aim of this study is to investigate the effect of vinegar on post-prandial blood sugar under treatment of OHA in type 2 diabetes. Our study includes 32 subjects with type 2 diabetes. Subjects provide written informed consent and are taking diabetes medications. Fasting subjects are randomly assigned to consume the vinegar (10 g apple cider vinegar, 40 g water) or placebo(40 g tap water) drink and, after a 2-min delay, the test meal, which is composed of a bread, fresh date , low fat milk , tea (58 g total carbohydrates). The cross-over trial is conducted 1 week later. Blood samples are collected at fasting and 90 min post meal for glucose and insulin analyses.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201201078630N1**
Registration date: **2012-02-23, 1390/12/04**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2012-02-23, 1390/12/04

Registrant information

Name

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Name of organization / entity

Babol university of medical sciences

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Recruitment status

Recruitment complete

Funding source

vice-chancellor of Research, Babol University of Medical Sciences

Expected recruitment start date

2011-12-22, 1390/10/01

Expected recruitment end date

2012-09-20, 1391/06/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Apple cider Vinegar Effect on Postprandial Glycemia in Patients With Type 2 Diabetes

Public title

Apple cider Vinegar Effect on Postprandial Glycemia in Patients With Type 2 Diabetes

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: diabetic patients using oral hypoglycemic agents. Exclusion criteria: using insulin and acarbose; active hyperthyroidism and hypothyroidism; unstable cardiac disease; hospitalized patients.

Age

From **18 years** old to **85 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 32

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Vice-chancellor for research, Babol University of Medical Sciences

Street address

Vice-chancellor for research, Daneshgah square, Ganjafrooz avenue

City

Babl

Postal code

4717647754

Approval date

2011-12-31, 1390/10/10

Ethics committee reference number

5337

Health conditions studied

1

Description of health condition studied

Diabetes mellitus

ICD-10 code

E10, E11,

ICD-10 code description

Diabetes mellitus

Primary outcomes

1

Description

post prandial glycemia

Timepoint

90 min after ingestion of vinegar with breakfast

Method of measurement

glucose oxidase

2

Description

Measurement of postprandial insulin concentration

Timepoint

90 min after ingestion of vinegar with breakfast

Method of measurement

ECL

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: 10 g apple cider vinegar + 40 g water with breakfast

Category

Treatment - Drugs

2

Description

Control group: 40 g water with breakfast

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Ayatolah Rohany Hospital

Full name of responsible person

Hamidreza Nosrati

Street address

Daneshgah Sq., Ganjafrooz St

City

Babol

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for research, Babol University of Medical Sciences

Full name of responsible person

Dr. Amrolah Mostafazadeh

Street address

Vice-chancellor for research, Babol University of Medical Sciences

City

Babol

Grant name

Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Vice Chancellor for research, Babol 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

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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