

# 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

Zoleyka Moazezi

###### Name of organization / entity

Babol university of medical sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 11 1223 8284

###### Email address

zmoazezi@mubabol.ir.ac

##### 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**

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**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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Babol University of Medical Sciences  
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Dr. Zoleika Moazezi  
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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**Full name of responsible person**  
Hamidreza Nosrati  
**Position**  
MD, Rezident of internal medicine  
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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*