

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jul 2026

### The effect of addition of roasted chickpea flour on the glycemic index, glycemic load and satiety index of white bread

#### Protocol summary

2016-10-10, 1395/07/19

#### Summary

This study examined the effect of adding chickpea flour to glycemic index, glycemic load and satiety index of white wheat bread. Study has two parts: 1-Determine the glycemic index and glycemic load, 2- Determine the satiety index of breads made from a mixture of white wheat flour and chickpea flour. To determine the glycemic index of breads, 10 healthy subjects enrolled in the study on 4 separate days with 1 week interval. In each day, they were given glucose solution, white bread or bread made from a mixture of white wheat flour and chickpea flour (1/2 and 1/4). Blood sample were taken at fasting and at 15, 30, 45, 60, 90 and 120 minutes after food ingestion. Then the glycemic index and glycemic load were calculated using formula. In second part, for determining satiety index of breads, 20 healthy subjects enrolled in the study on three separate days with one week interval. In each day they are given white bread or bread made from a mixture of white wheat flour and chickpea flour. The satiety was measured at fasting and after bread ingestion, every 15min over the next 2 hours using a satiety questionnaire. Then the satiety index of breads calculated using formula. Finally the glycemic index, glycemic load and satiety index of the breads compared. In both parts of the study, each person consumed all test foods and they were their self-control.

#### Registrant information

##### Name

Farideh Shishehbor

##### Name of organization / entity

Ahvaz Jundishapur University of Medical Sciences

##### Country

Iran (Islamic Republic of)

##### Phone

+98 61 3373 8430

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#### Recruitment status

##### Recruitment complete

#### Funding source

Deputy of Research Affairs of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

#### Expected recruitment start date

2015-10-17, 1394/07/25

#### Expected recruitment end date

2016-02-06, 1394/11/17

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### Scientific title

The effect of addition of roasted chickpea flour on the glycemic index, glycemic load and satiety index of white bread

#### Public title

The effect of roasted chickpea flour on the glycemic index, glycemic load and satiety index of white bread

#### Purpose

Treatment

#### Inclusion/Exclusion criteria

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016061814680N4**

Registration date: **2016-10-10, 1395/07/19**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

Inclusion criterion: age 20-50 year; healthy; normal diet; normal weight. Exclusion criteria: abnormality of glucose metabolism; smoking; pregnancy; lactation; having metabolic disease; taking medicine that affect blood glucose metabolism; any gastrointestinal impairment; having a special diet.

**Age**

From **20 years** old to **50 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **30**

**Randomization (investigator's opinion)**

N/A

**Randomization description****Blinding (investigator's opinion)**

Single blinded

**Blinding description****Placebo**

Not used

**Assignment**

Crossover

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Vice Chancellor for Research and Technology  
Development of Ahvaz Jundishapur University of  
Medical S

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Golestan Blvd.

**City**

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**Postal code**

6135715794

**Approval date**

2015-06-20, 1394/03/30

**Ethics committee reference number**

IR.AJUMS.REC.1394.232

**Health conditions studied****1****Description of health condition studied**

healthy subjects

**ICD-10 code****ICD-10 code description****Primary outcomes****1****Description**

Satiety index

**Timepoint**

Determining satiety rate at fasting and every 15 minutes  
after ingestion of breads for 2 hours

**Method of measurement**

Using VAS questionnaire and formula

**2****Description**

Glycemic index

**Timepoint**

Measuring blood glucose at fasting and at 15, 30, 45, 60,  
90 and 120 minutes after food ingestion in week 1, week  
2 and week 3

**Method of measurement**

Using formula

**Secondary outcomes****1****Description**

glycemic load

**Timepoint**

week 1, week 2, week 3

**Method of measurement**

using formula

**Intervention groups****1****Description**

white wheat bread

**Category**

Lifestyle

**2****Description**

Bread made from a mixture of white wheat flour and  
chickpea flour (1/2 ratio)

**Category**

Lifestyle

**3****Description**

Bread made from a mixture of white wheat flour and  
chickpea flour (1/4 ratio)

**Category**

Lifestyle

**Recruitment centers**

## 1

### Recruitment center

**Name of recruitment center**

Nutrition and Metabolic Disease Research Center

**Full name of responsible person**

Farideh Shishehbor

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Jundishapur University of Medical Sciences, Golestan  
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**Web page address**

## Sponsors / Funding sources

## 1

### Sponsor

**Name of organization / entity**

Vice Chancellor for Research and Technology  
Development of Ahvaz Jundishapur University of  
Medical

**Full name of responsible person**

Alireza Ekrami

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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**

Vice Chancellor for Research and Technology  
Development of Ahvaz Jundishapur University of Medical

**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**

Pardis Division of Ahvaz Jundishapur University of  
Medical Sciences

**Full name of responsible person**

Elham Kazem Assareh

**Position**

M.Sc student of Nutrition sciences

**Other areas of specialty/work****Street address**

## Person responsible for scientific inquiries

### Contact

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## Person responsible for updating data

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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*