

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Jul 2026

The effect of Quercus flour on the glycemic index, glycemic load and satiety index of white bread in healthy subjects

Protocol summary

Study aim

The effect of Quercus flour on the glycemic index, glycemic load and satiety index of white bread in healthy subjects

Design

Randomized, not blinded, clinical trial in Phase 3. For determining the glycemic index, 10 healthy individuals are sufficient and 20 healthy individuals are sufficient for the satiety index.

Settings and conduct

This study will be carried out at Ahvaz Jundishapur University of Medical Sciences. To determine the glycemic index and load, 10 healthy people with a normal blood sugar level will participate in the study. In each day of the study, people are referred to the laboratory after 10 to 12 hours fasting and a fasting blood sample is taken from them. Then glucose solution, white bread or two breads containing white flour and Quercus flour (with different proportions) are given to individuals. After that, blood samples will be taken at intervals of 30, 15, 45, 60, 90 and 120 minutes after eating. In order to determine the satiety index, 20 healthy people refer to the laboratory in the fasting state for three separate days, one week after 10-12 hours fasting. Before and after eating white bread (reference food) and breads containing white flour and Quercus flour, the questionnaire will determine the amount of satiety of individuals at fasting times and every 15 minutes.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Both sexes; ages 20-40 years; Fasting blood sugar levels within the normal range (less than 110 mg / dl); BMI in the normal range (18.5 to 24.9 kg / m²) ; following a common diet exclusion criteria: Pregnancy; Breast feeding; the use of drugs and diseases that affect the metabolism of blood sugar and the amount of the satiety and hunger

Intervention groups

Healthy people consume white bread and bread mixed with white flour and oak flour (with different proportions).

Main outcome variables

Glycemic index; glycemic load; satiety index

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180201038584N1**

Registration date: **2018-07-04, 1397/04/13**

Registration timing: **retrospective**

Last update: **2018-07-04, 1397/04/13**

Update count: **0**

Registration date

2018-07-04, 1397/04/13

Registrant information

Name

Zahra Salimi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 38 3222 3969

Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-01-17, 1396/10/27

Expected recruitment end date

2018-02-17, 1396/11/28

Actual recruitment start date

2018-01-17, 1396/10/27

Actual recruitment end date

2018-02-17, 1396/11/28

Trial completion date

empty

Scientific title

The effect of Quercus flour on the glycemic index, glycemic load and satiety index of white bread in healthy subjects

Public title

Determination of Quercus Flour effect on the glycemic index, glycemic load and satiety index of white bread in healthy subjects

Purpose

Prevention

Inclusion/Exclusion criteria**Inclusion criteria:**

The level of fasting blood glucose is normal (less than 110 mg / ml) BMI normal (18.5 to 24.9) Follow the normal diet

Exclusion criteria:

Taking medications and diseases that affect the metabolism of blood sugar and the amount of hunger and satiety. Pregnancy Lactation

Age

From **20 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Actual sample size reached: **30**

Randomization (investigator's opinion)

N/A

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

Not blinded

Blinding description**Placebo**

Not used

Assignment

Crossover

Other design features**Secondary Ids**

empty

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

Ethics Committee of Ahwaz University of Medical Sciences

Street address

Golestan Highway

City

Ahvaz

Province

Khouzestan

Postal code

61357-15794

Approval date

2018-01-16, 1396/10/26

Ethics committee reference number

IR.AJUMS.REC.1396.870

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

افراد سالم

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

Satiety index

Timepoint

Measure satiety in fasting and every 15 minutes after eating each bread for up to two hours in the first week, the second week and the third week

Method of measurement

Using the VAS Questionnaire and Formula

2**Description**

Glycemic index

Timepoint

Blood glucose measurements in fasting state and 90, 60, 45, 30, 15 and 120 minutes after eating

Method of measurement

Using formula

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

Glycemic load

Timepoint

First week, second week, third week

Method of measurement

Using formula

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

Intervention group: Breads made from white wheat flour, water, improver, salt and yeast, which each person randomly consumes once in the course of this 4-week intervention. This bread should contain 50 grams of

available carbohydrates for the glycemic index and 1,000 kiloules (240 kilocalories) of energy for the Satiety index.

Category

Lifestyle

2

Description

Intervention group: Bread made from mixture of oak flour and white flour to a ratio of 1/2, water, improver, salt and dough, which each person randomly consumes once in the course of this 4-week intervention. This bread should contain 50 grams of available carbohydrates for the glycemic index and 1,000 kiloules (240 kilocalories) of energy for the Satiety index.

Category

Lifestyle

3

Description

Intervention group: Bread made from mixture of 1/4 oak flour and 3/4 white flour, water, improver, salt and dough, which each person randomly consumes once in the course of this 4-week intervention. This bread should contain 50 grams of available carbohydrates for the glycemic index and 1,000 kiloules (240 kilocalories) of energy for the Satiety index.

Category

Lifestyle

4

Description

Intervention group: Glucose solution (50 g dissolved in 250 ml of water) used to determine the glycemic index as a reference food.

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Nutrition and Metabolic Diseases Research Center

Full name of responsible person

Farideh Shishehbor

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Mohammad Badawi

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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

Ahvaz University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Zahra Salimi

Position

Masters of Nutrition

Latest degree

Bachelor

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available