

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

Qualitative properties and sensory evaluation of dietary chocolate milk prepared using stevia sweetener in comparison with the conventional chocolate milk by healthy assessors

Protocol summary

Summary

Objectives: Type 2 diabetes mellitus (DM), is a disease with a rising prevalence in Iran that its incidence is mainly due to changed diets specially with high levels of sugar and fat. Nowadays there is an increasing tendency to low caloric natural foods. Stevia rebaudiana is a kind of natural sweetener with zero calorie having the sweetness of 300 times or more than that of sugar and on the contrary of artificial sweeteners it doesn't lead to health problems. Because of very few diabetic dairy products in Iran, we sought to assess production of a diabetic chocolate milk prepared using Stevia. We will also use Inulin to enhance texture properties of chocolate milk and meanwhile have a prebiotic in our new functional food. Design: This study will be carried out in 6 treatments with 3 repetitions by Randomized Complete Block Design (RCBD). Stevia will be substitute with sucrose in three portions of sucrose to Stevia; 100:0 (as the control), 50:50 and 0:100. Inulin, in three levels of %2, %4 and %6, will be also added to the treatment using %100 stevia and no sucrose. Some physicochemical, rheological and sensory properties will be determined to investigate the effect of Stevia and Inulin application on quality of chocolate milk. Sensory evaluation will be performed by 8 trained and 8 untrained assessors. Untrained assessors will participate in the acceptance test to determine the acceptance of the new products by ranking scale. To detect the differences through the treatments, discrimination tests will be performed by trained assessors. The participants should be devoid of any kinds of diseases (especially a cold) and should not smoke. A written consent will be obtained from all the subjects prior to the intervention. Conduct and interventions: In every sensory test 250cc of each product will be presented to the assessors who will be unaware of the type of chocolate milk they consume each time. The samples will be taste in the day

of production, after reaching to the refrigerator temperature (4°C). Because of exposing to the pasteurization process during the production procedure, there will be no microbial risk for assessors. Furthermore, inulin and stevia are two substances which are permitted by FDA to be used in food products. At the end, analysis of data will be carried out by ANOVA using SPSS software ver. 16.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201106245554N3**

Registration date: **2011-07-31, 1390/05/09**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2011-07-31, 1390/05/09

Registrant information

Name

Aziz Homayouni

Name of organization / entity

Tabriz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Tabriz University of Medical Sciences

Expected recruitment start date

2011-07-21, 1390/04/30

Expected recruitment end date

2012-03-18, 1390/12/28

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Qualitative properties and sensory evaluation of dietary chocolate milk prepared using stevia sweetener in comparison with the conventional chocolate milk by healthy assessors

Public title

Comparison of some physicochemical, rheological and sensory properties of dietary chocolate milk prepared using stevia with conventional chocolate milk

Purpose

Prevention

Inclusion/Exclusion criteria

inclusion criteria: not having any diseases (including a cold); not smoking; exclusion criteria: having any diseases (including a cold); smoking

Age

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

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **8**

Randomization (investigator's opinion)

Randomized

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

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethics committee of Tabriz University of Medical Sciences

Street address

Golbad Ave

City

Tabriz

Postal code**Approval date**

2011-06-19, 1390/03/29

Ethics committee reference number

9018

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

healthy assessors

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

sensory evaluation of the 6 treatments and comparing them

Timepoint

Exactly after the consumption of 250 cc of the product

Method of measurement

questionnaire

Secondary outcomes

empty

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

250 cc of chocolate milk prepared using stevia

Category

Prevention

2**Description**

250 cc of chocolate milk prepared using stevia and inulin

Category

Prevention

Recruitment centers**1****Recruitment center****Name of recruitment center**

Tabriz University of Medical Sciences

Full name of responsible person

Dr. Aziz Homayouni Rad

Street address**City**

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Tabriz University of Medical Sciences

Full name of responsible person

Dr. Mohammad Reza Rashidi

Street address

Golbad Ave.

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Tabriz

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, Tabriz 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**

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Full name of responsible person

Dr. Aziz Homayouni Rad

Position

Assistant Professor, Department of Food Science and Technology

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Web page address

Person responsible for updating data

Contact

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