

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of Separated And Simultaneous Consumption Of Branched-chain Amino Acids And Glutamine On Muscle Damage Indices After Eccentric Resistance Exercise

Protocol summary

Study aim

The purpose of this study was to compare the effect of BCAA and glutamine supplements and their synergistic effect on serum muscle injury indices and pain after a session of eccentric resistance exercise.

Design

A clinical trial with a control group, with parallel groups, randomized

Settings and conduct

Performing resistance training causes muscular injuries. This study is conducted on 40 non-athlete male students of the University of Gilan. The subjects are divided into four groups and the effects of supplements and placebo on the indicators of muscle damage are measured.

Participants/Inclusion and exclusion criteria

Entry conditions: Non-smokers and untrained males
Exit condition: supplement consumption

Intervention groups

Group 1: Branched amino acids (0.1 g / Kg), 30 minutes before exercise
Group 2: Glutamine (0.1 g / Kg), 30 minutes before exercise
Group 3: Branched amino acids (0.1 g / Kg) and glutamine (0.1 g / Kg), 30 minutes before exercise
Group 4: Placebo (maltodextrin) (0.1 g / kg), 30 minutes before exercise

Main outcome variables

Serum creatine kinase enzyme; Serum lactate dehydrogenase enzyme

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20130227012628N2**

Registration date: **2019-08-01, 1398/05/10**

Registration timing: **prospective**

Last update: **2019-08-01, 1398/05/10**

Update count: **0**

Registration date

2019-08-01, 1398/05/10

Registrant information

Name

Mohammad Samadi

Name of organization / entity

Baqiyatallah University Of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 8248 2407

Email address

m.samadi@bmsu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-08-27, 1398/06/05

Expected recruitment end date

2019-09-27, 1398/07/05

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Separated And Simultaneous Consumption Of Branched-chain Amino Acids And Glutamine On Muscle Damage Indices After Eccentric Resistance Exercise

Public title

Effect Of Branched-chain Amino Acids And Glutamine On Muscle Damage

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Male Non-smoker Untrained

Exclusion criteria:

Illness Supplements consumption

Age

No age limit

Gender

Male

Phase

N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

The subjects will be divided into four groups A and B, C and D using simple randomization method and by random number table. Therefore, the unit of randomization will be individuals. First, a list of all participants will be provided. Then, by deleting the names from the list, individuals will be assigned to the study groups on the basis of the numbers already assigned to each person. Since the numbers of the participants (not their names) are assigned to the groups, and this will be done once, the researcher will not have the opportunity to change the status of the assignment of individuals or predict it. The study groups include (A) branched amino acids, group (B) glutamine, group (C) branched amino acids and glutamine and group (D), placebo.

Blinding (investigator's opinion)

Single blinded

Blinding description

The data analyst, and outcome assessor in the study do not know who is in the intervention groups and who is in the placebo group.

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research Ethics Committee of Sport Sciences
Research Institute

Street address

No.3, 5 th St., Mir Emad St. Motahari Ave.

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2019-04-28, 1398/02/08

Ethics committee reference number

IR.SSRI.REC.1397.465

Health conditions studied

1

Description of health condition studied

muscle damage

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Serum keratin kinase enzyme activity

Timepoint

Before, 24 hours, 48 hours and 72 hours after intervention

Method of measurement

Level of enzyme activity by photometric method

2

Description

Serum lactate dehydrogenase enzyme activity

Timepoint

Before, 24 hours, 48 hours and 72 hours after intervention

Method of measurement

Level of enzyme activity by photometric method

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group A: branched-chained amino acids (0.1g/Kg)

Category

Prevention

2

Description

Intervention group B: glutamine (0.1g/Kg)

Category
Prevention

3

Description
Intervention group C: branched-chain amino acids (0.1g/Kg) plus glutamine (0.1g/Kg)

Category
Prevention

4

Description
Control group_D: Maltodextrin (0.1g/Kg) as placebo

Category
Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center
Gilan university
Full name of responsible person
Foad Asjodi
Street address
5th kilometer of Qazvin Road, Persian Gulf Highway.
City
Rasht
Province
Guilan
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4199613776
Phone
+98 31 3369 0485
Email
m.samadi@gilan.ac.ir
Web page address
http://www.guilan.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Bagheiat-allah University of Medical Sciences
Full name of responsible person
Mohammad Samadi
Street address
nosrati Alley, Sheikh bahaei St. MOlla sadra Ave.
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Web page address
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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
Bagheiat-allah 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
Persons

Person responsible for general inquiries

Contact

Name of organization / entity
Bagheiat-allah University of Medical Sciences
Full name of responsible person
Mohammad Samadi
Position
Assiatant Professsor
Latest degree
Ph.D.
Other areas of specialty/work
Nutrition
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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

No more information

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

No - There is not 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