

# 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  
**Postal code**  
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.  
**City**  
Tehran  
**Province**  
Tehran  
**Postal code**  
1435916471  
**Phone**  
+98 21 8248 2407  
**Email**

m.samadi@bmsu.ac.ir

**Web page address**  
http://www.bmsu.ac.ir

**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  
**Street address**  
Nosrati st., Sheikh Bahaei St., Molla Sadra Ave.  
**City**  
Tehran  
**Province**  
Tehran  
**Postal code**  
1435916471  
**Phone**  
+98 21 8248 2407  
**Email**  
samadi.mohammad@yahoo.com  
**Web page address**

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
Bagheiat-allah University of Medical Sciences  
**Full name of responsible person**  
Mohammad Samadi  
**Position**  
Assistant Professor  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**

Exercise Physiology

**Street address**

Nosrati Alley, Sheikh Bahaei ST., Molla Sadra Ave.

**City**

Tehran

**Province**

Tehran

**Postal code**

1435916471

**Phone**

+98 21 8248 2407

**Email**

samadi.mohammad@yahoo.com

**Person responsible for updating data**

**Contact**

**Name of organization / entity**

Bagheiat-allah University of Medical Sciences

**Full name of responsible person**

Mohammad Samadi

**Position**

Assistant Professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Nutrition

**Street address**

Nosratri St., Sheik Bahaei St., Molla sadra Ave.

**City**

Tehran

**Province**

Tehran

**Postal code**

1435916471

**Phone**

+98 21 8248 2407

**Email**

samadi.mohammad@yahoo.com

**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