

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The effect of eight weeks of isometric resistance training and branched-chain amino acids supplementation on muscle capacity and serum albumin levels in hemodialysis patients

Protocol summary

Summary

The aim of this study was to evaluate the effect of eight weeks of isometric training intradialytic and branched-chain amino acids (BCAA) supplementation on muscle capacity and serum albumin in hemodialysis patients. The statistical population was the hemodialysis patients in Tehran and the sample population was patients in dialysis ward of Baqiyatallah hospital. In a clinical trial based on the inclusion and exclusion criteria 51 patients were randomly allocated into three groups: exercise group (EX) (n=17), exercise and BCAA group (EXBCAA) (n=17) and control group (n=17). In EXBCAA group, with the supervision of a nutritionist and a nephrologist 6 grams of BCAA were given to patients daily and training program was done 3 times a week for 2 months (24 sessions). Forearm endurance, leg raise endurance, and grip strength were measured for muscle capacity aspect and serum albumin levels were evaluated test before and post-intervention. Inclusion criteria: patients between ages of 18-80; patients who have undergone hemodialysis for a minimum of 6 months exclusion criteria: cancer; nephrotic syndrome; type B hepatitis; type C hepatitis or active infection during the previous 4 months

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017101014998N2**

Registration date: **2017-11-17, 1396/08/26**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-11-17, 1396/08/26

Registrant information

Name

Ali Tayebi

Name of organization / entity

Baqiyatallah University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 912 105 8516

Email address

tayebi@bmsu.ac.ir

Recruitment status

Recruitment complete

Funding source

Baqiyatallah Azam University of Medical Sciences, nephrology and urology research center

Expected recruitment start date

2017-04-09, 1396/01/20

Expected recruitment end date

2017-04-21, 1396/02/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of eight weeks of isometric resistance training and branched-chain amino acids supplementation on muscle capacity and serum albumin levels in hemodialysis patients

Public title

effect of exercise and dietary supplement in hemodialysis patients

Purpose

Supportive

Inclusion/Exclusion criteria

inclusion criteria: patients between ages of 18-80;
patients who have undergone hemodialysis for a
minimum of 6 months exclusion criteria: cancer;
nephrotic syndrome; type B hepatitis; type C hepatitis or
active infection during the previous 4 months; dementia;
neurologic disease; no severe cardiovascular problem;
no severe infections; no chronic liver disease; no chronic
disease with unknown origin

Age

From **18 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **51**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Sports Sciences Research Institute of Iran

Street address

No. 3, 5th Alley, Miremad Street, Motahhari Street,

City

Tehran

Postal code

1587958711

Approval date

2017-08-30, 1396/06/08

Ethics committee reference number

IR.SSRI.REC.1396.127

Health conditions studied

1

Description of health condition studied

end stage renal failure

ICD-10 code

I12

ICD-10 code description

Hypertensive renal disease with renal failure

Primary outcomes

1

Description

muscle capacity

Timepoint

pre and post intervention

Method of measurement

grip strength measured by hydraulic dynamometer.
endurance with chronometer

2

Description

albumin serum levels

Timepoint

pre and post intervention

Method of measurement

blood test

Secondary outcomes

empty

Intervention groups

1

Description

exercise and BCAA group: intradialytic isometric
resistance training and supplementation with 6 grams of
BCAA

Category

Rehabilitation

2

Description

exercise group : intradialytic isometric resistance
training .

Category

Rehabilitation

3

Description

control group : routine treatment with hemodialysis with
no intervention

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Baqiyatallah azam hospital

Full name of responsible person
Street address
mollasadra street, tehran, iran
City
tehran

City
Tehran
Postal code
Phone
+98 21 8126 2073
Fax
Email
tayybi.ali@gmail.com
Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Baqiyatallah Azam University of Medical Sciences
nephrology and urology center
Full name of responsible person
Ali Tayebi
Street address
nephrology and urology research center, ground floor,
Baqiyatallah hospital, Mollasadra street
City
tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Baqiyatallah Azam University of Medical Sciences
nephrology and urology center
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
nephrology and urology research center, nursing
faculty of Baqiyatallah University of Medical Scienc
Full name of responsible person
Ali Tayebi
Position
PhD candidate, faculty member
Other areas of specialty/work
Street address
baqiyatallah university of medical sciences,
Mollasadra

Person responsible for scientific inquiries

Contact

Name of organization / entity
nephrology and urology research center, nursing
faculty of Baqiyatallah University of Medical Scienc
Full name of responsible person
Ali Tayebi
Position
phD candidate
Other areas of specialty/work
Street address
Baqiyatallah hospital, Mollasdra street
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tayybi.ali@gmail.com
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