Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

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

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Name of organization / entity
Baqiyatallah University of Medical Sciences
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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 hemodyalisis 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 : intradialyitic 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

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
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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