

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The Effect Of Adding Selevtive Neuromuscular Exercise to Conventional Basketball Exercises on Some of the Risk Factors in Adolescent Semi-Professional Basketball Players.

#### Protocol summary

##### Study aim

The Effect Of Adding Selevtive Neuromuscular Exercise to Conventional Basketball Exercises on Some of the Risk Factors in Adolescent Semi-Professional Basketball Players

##### Design

A semi-experimental research was conducted with a pre-test and post-test design .The research was one-sided blind in two experimental and control groups.

##### Settings and conduct

The samples were 30 people who were selected as available and randomly divided into two experimental groups of 15 people and control group of 15 people. The randomization process was done by a researcher who had no direct relationship with the clubs and team officials and was not involved in the intervention phase.

##### Participants/Inclusion and exclusion criteria

Players must be between 14 and 18 years old to enter the study. Players must have a history of 3 years of regular basketball training. Players who have abnormalities in their trunk and lower limbs will be prevented from participating.

##### Intervention groups

The players were randomly divided into control and experimental groups. The experimental group did selective neuromuscular exercises before their basketball practice for 20 minutes and then did basketball exercises for 90 minutes. The players in the control group only did common basketball exercises for 90 minutes, 3 sessions a week.

##### Main outcome variables

The Landing Error Scoring System (LESS): knee-valgus and flexion moment : Dynamic balance : Knee proprioception : Trunk endurance : Isometric strength (trunk flexion, trunk extension, plantar flexion, Dorsi flexion, Hip abduction, Hip extension, Knee flexion, knee extension): Sargent test : Illinois : T-test

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20240907062968N1**

Registration date: **2024-11-18, 1403/08/28**

Registration timing: **retrospective**

Last update: **2024-11-18, 1403/08/28**

Update count: **0**

##### Registration date

2024-11-18, 1403/08/28

##### Registrant information

##### Name

Ali Honarvar

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 26 3443 4073

##### Email address

alihonarvar144@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2023-11-03, 1402/08/12

##### Expected recruitment end date

2024-01-20, 1402/10/30

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

## Scientific title

The Effect Of Adding Selevtive Neuromuscular Exercise to Conventional Basketball Exercises on Some of the Risk Factors in Adolescent Semi-Professional Basketball Players.

## Public title

The Effect Of Adding Selevtive Neuromuscular Exercise to Conventional Basketball Exercises on Some of the Risk Factors

## Purpose

Prevention

## Inclusion/Exclusion criteria

### Inclusion criteria:

The participants should have the ability to participate in the national league teams in terms of the quality level of the game Having at least three years of playing experience in national championships or national leagues Having general health approval by a doctor

### Exclusion criteria:

The presence of abnormalities in the trunk and lower limbs Players who have not had any injury, pain or surgery in the lower limbs and trunk in the last six months

## Age

From **13 years** old to **18 years** old

## Gender

Male

## Phase

N/A

## Groups that have been masked

- Outcome assessor
- Data analyser

## Sample size

Target sample size: **30**

## Randomization (investigator's opinion)

Randomized

## Randomization description

The randomization method will be web-based. Subjects who meet the inclusion criteria are randomly divided into the control group and injury prevention exercises using the randomization method of the website (Social Psychology Network, Connecticut, USA) [www.randomizer.org](http://www.randomizer.org). Randomization will be simple. Concealment of random allocation using a computer-generated block randomization table, where the number 1 will be defined for the training group, and the number 2 will be defined for the control group. Then the random number sequence will be placed in opaque and sealed envelopes. Also, according to the assignment of the group, the intervention by the researcher will continue. Finally, it will evaluate the results before the interventions and eight weeks after the interventions.

## Blinding (investigator's opinion)

Single blinded

## Blinding description

After reading the consent form, the participants were informed about the study groups in a 30-minute meeting, and without having the right to choose the group, they participated in this study with their consent, so that the names of the patients were entered by someone who

was not aware of the identity and physical characteristics of the individuals. Using the site [/http://randomizer.org](http://randomizer.org), it is randomly divided into two equal groups and each part is placed separately in sealed envelopes. Then, according to their assigned group, relevant training and exercises are provided to each person. The outcome analyzer and evaluator also examines and compares the changes made before and after eight weeks without knowing the hypotheses, study methods and patient characteristics.

## Placebo

Not used

## Assignment

Parallel

## Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics Committee of Islamic Azad University Karaj branch

##### Street address

Rajaie shahr, Moazzen Bolvd, Islamic azad university Karaj branch

##### City

karaj

##### Province

Alborz

##### Postal code

3149968111

#### Approval date

2024-08-26, 1403/06/05

#### Ethics committee reference number

IR.IAU.K.REC.1403.108

## Health conditions studied

### 1

#### Description of health condition studied

Risk factors of lower limb and trunk injury

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

The Landing Error Scoring System

#### Timepoint

Before and after intervention

#### Method of measurement

The landing error scoring system

## 2

### **Description**

knee-valgus and flexion moment

### **Timepoint**

Before and after intervention

### **Method of measurement**

Two cameras will be used to evaluate the dynamic valgus and flexion of the knee.

## 3

### **Description**

Trunk endurance of extensor muscles

### **Timepoint**

Before and after intervention

### **Method of measurement**

Biering-Sorensen

## 4

### **Description**

proprioception test

### **Timepoint**

Before and after intervention

### **Method of measurement**

30 degree angle

## 5

### **Description**

Dynamic Balance

### **Timepoint**

Before and after intervention

### **Method of measurement**

It was measured in 3 directions with the star test

## 6

### **Description**

Sarjent jump

### **Timepoint**

Before and after intervention

### **Method of measurement**

tape measure

## 7

### **Description**

Illinoise test

### **Timepoint**

Before and after intervention

### **Method of measurement**

Illinois standardized test

## 8

### **Description**

t-test

### **Timepoint**

Before and after intervention

### **Method of measurement**

T-test standardized test

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

Intervention group: Neuromuscular exercises were performed in the warm-up for 20 minutes before regular basketball exercises, and then they performed basketball exercises for 90 minutes, 3 sessions per week for 8 weeks.

#### **Category**

Prevention

### 2

#### **Description**

Control group: They only did common basketball exercises for 90 minutes, 3 sessions a week.

#### **Category**

Prevention

## **Recruitment centers**

### 1

#### **Recruitment center**

##### **Name of recruitment center**

Islamic Azad university Karaj Branch

##### **Full name of responsible person**

Vahid Mazloum

##### **Street address**

Rajaie shahr, Moazen Bolvd, Islamic Azad university of Karaj branch

##### **City**

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##### **Province**

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##### **Postal code**

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##### **Phone**

+98 26 3425 9571

##### **Fax**

##### **Email**

info@kiau.ac.ir

##### **Web page address**

## **Sponsors / Funding sources**

### 1

#### **Sponsor**

##### **Name of organization / entity**

Islamic Azad University

##### **Full name of responsible person**

Vahid Mazloum

##### **Street address**

Rajaie shahr, Moazen Bolvd, Islamic Azad university of Karaj branch

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**Email**  
info@kiau.ac.ir  
**Grant name**  
**Grant code / Reference number**  
**Is the source of funding the same sponsor organization/entity?**  
Yes  
**Title of funding source**  
Islamic Azad University  
**Proportion provided by this source**  
100  
**Public or private sector**  
Private  
**Domestic or foreign origin**  
Domestic  
**Category of foreign source of funding**  
*empty*  
**Country of origin**  
**Type of organization providing the funding**  
Academic

## Person responsible for general inquiries

**Contact**  
**Name of organization / entity**  
Islamic Azad University  
**Full name of responsible person**  
Vahid Mazloun  
**Position**  
assistant professor  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Physiotherapy  
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## Person responsible for scientific inquiries

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## Person responsible for updating data

**Contact**  
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Islamic Azad University  
**Full name of responsible person**  
Ali Honarvar  
**Position**  
assistant professor  
**Latest degree**  
Bachelor  
**Other areas of specialty/work**  
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**Email**  
alihonarvar144@gmail.com

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**  
Yes - There is a plan to make this available  
**Study Protocol**  
Yes - There is a plan to make this available  
**Statistical Analysis Plan**  
Yes - There is a plan to make this available  
**Informed Consent Form**  
Yes - There is a plan to make this available  
**Clinical Study Report**  
Yes - There is a plan to make this available  
**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable

**Title and more details about the data/document**

The data related to the subjects of the control and intervention groups in the pre-test and post-test are shared in an unidentifiable way.

**When the data will become available and for how long**

Six months after the publication of articles

**To whom data/document is available**

All researchers

**Under which criteria data/document could be used**

There is no obstacle to using data for citation, by mentioning the source.

**From where data/document is obtainable**

Vahid.mazloum@yahoo.com

**What processes are involved for a request to access data/document**

The request will be made by email and the answer will be sent within 15 days.

**Comments**