Clinical Trial Protocol
Iranian Registry of Clinical Trials

20 Sep 2026

Investigating the range of motion of the lower limb joints during walking on flat and sloping surfaces in middle-aged climbers with and without backpacks

Protocol summary

Study aim

Investigating the range of motion of lower limb joints during walking on flat and steep surfaces in middle-aged climbers with and without backpacks

Design

There were two groups in the clinical trial work, one with a backpack weighing 25% of the body weight and the other without a backpack, both groups walked on a flat and sloping surface. 2- On 15 middle-aged climbers who have conquered at least 5 peaks (semi-professional to professional) 3- These people were randomly tested in terms of incline on the treadmill.

Settings and conduct

The statistical community of the research was formed by all the middle-aged climbers of Kerman - after attending the physical training laboratory, they were told how to conduct the research, and after signing the health and satisfaction self-declaration form, they participated in the test - first, a static test was taken in the anatomical position, then The subject was asked to warm up on the treadmill for two minutes - after the test, he was placed on the treadmill and walked on the treadmill for two minutes (with and without a backpack) on any incline, and the last 20 seconds were photographed without the subject's knowledge.

Participants/Inclusion and exclusion criteria

Middle-aged mountaineers - conquest of at least five peaks - perfect physical health

Intervention groups

- Investigating the effectiveness of carrying a backpack weighing 25% of the subject's weight on the range of motion of the lower limb joints 2- Investigating the effect of no backpack on the range of motion of the joints of the lower limbs (control group) 3- Investigating the effectiveness of the ramp 15- on the range of motion of the joints of the lower limbs 4- Investigating the effectiveness of the smooth surface on the range of motion of the lower limb joints

Main outcome variables

The range of motion of the joints at zero and minus 15 degrees

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230123057190N1**
Registration date: **2023-01-25, 1401/11/05**
Registration timing: **retrospective**

Last update: **2023-01-25, 1401/11/05**
Update count: **0**

Registration date

2023-01-25, 1401/11/05

Registrant information

Name

mohammadbagher mahdavikhalilabad

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 51 5772 4532

Email address

mahdavim326@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-12-25, 1401/10/04

Expected recruitment end date

2023-01-01, 1401/10/11

Actual recruitment start date

2022-12-25, 1401/10/04

Actual recruitment end date

2023-01-01, 1401/10/11

Trial completion date

2023-01-02, 1401/10/12

Scientific title

Investigating the range of motion of the lower limb joints during walking on flat and sloping surfaces in middle-aged climbers with and without backpacks

Public title

Investigating the range of motion of lower limb joints in middle-aged climbers

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Middle-aged people who have conquered at least 5 peaks Have perfect physical health

Exclusion criteria:

The presence of damage in the lower limbs Cardiovascular disorders Taking drugs that affect the central nervous system

Age

From **45 years** old to **55 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **15**

Actual sample size reached: **12**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Faculty of Veterinary Medicine, Bahnar University of Kerman

Street address

Kerman - Imam Khomeini Highway - Research Square

City

Kerman

Province

Kerman

Postal code

7616913439

Approval date

2022-03-06, 1400/12/15

Ethics committee reference number

IR.UK.REC.1401.003

Health conditions studied

1

Description of health condition studied

Range of motion of lower limb joints

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Range of motion of lower limb joints

Timepoint

In a day immediately after warming up people

Method of measurement

Motion capture device made in America

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: walking on a negative fifteen and zero ramp with a backpack

Category

Prevention

2

Description

The intervention group in the control group: walking on a negative fifteen and zero ramp without a backpack

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical education laboratory

Full name of responsible person

Mohammadbagher mahdavikhalilabad

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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Faculty of Physical Education, Bahnar University, Kerman
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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
Faculty of Physical Education, Bahnar University, Kerman
Proportion provided by this source
20
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
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
Faculty of Physical Education, Bahnar University, Kerman
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mohammadbagher mahdavi khalilabad
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University student
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Person responsible for updating data

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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
Dissatisfaction of people
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
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable