

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Sep 2026

The influence of different standing positions on activation of trunk and pelvis muscles and lumbar lordosis in pain-developer subjects in prolonged standing

Protocol summary

Study aim

The influence of different standing positions on activation of trunk and pelvis muscles and lumbar lordosis in LBP developers in prolonged standing.

Design

Clinical trial with parallel groups, randomized, on 24 patients. Random function of Excel software was used for randomization. Blinding was not done

Settings and conduct

by calling the girls present in the dormitory, the samples are recruited and by checking the input factors and hip abduction tests and prolong standing protocol in the laboratory of Tehran University of Physical Education, qualified people are selected and among these people randomly. 24 people will be invited to the experiment. On the day of the experiment, they will be randomly divided into two groups, and one group will only have foot intervention every 10 minutes while standing for one hour, and the other group will change the arm position intervention in addition to the foot intervention. Their muscle activity and lordosis angle are recorded according to the recorded minutes in the results section. Blinding is not done.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Healthy 25-35 year old women interested in volunteering for a research project, Having a body mass index (BMI) between 18 and 30, No history of LBP in the last 12 months or musculoskeletal diseases related to the back, upper and lower limbs. Exclusion criteria: Experiencing LBP in the past 12 months that required seeing a doctor or taking more than three days off from work, Having professional and regular sports activities, Deformities in the spine and other organs (flat foot,...)

Intervention groups

The first group is "change of arm position and cyclic use of footrest while standing" and the second group is "only

cyclic use of footrest while standing".

Main outcome variables

Muscle activity of Trunk and Pelvic Muscles, Co-contraction index, the degree of lower and upper lumbar lordosis angle.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230628058610N1**

Registration date: **2024-01-20, 1402/10/30**

Registration timing: **prospective**

Last update: **2024-01-20, 1402/10/30**

Update count: **0**

Registration date

2024-01-20, 1402/10/30

Registrant information

Name

Saeedeh Abbasi

Name of organization / entity

Tehran university of sport sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-02-04, 1402/11/15

Expected recruitment end date

2024-03-15, 1402/12/25
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
The influence of different standing positions on activation of trunk and pelvis muscles and lumbar lordosis in pain-developer subjects in prolonged standing

Public title
The influence of different standing positions on activation of trunk and pelvis muscles and lumbar lordosis in pain-developer subjects in prolonged standing

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria:
Healthy women 25 to 35 years old interested in volunteering for a research project Having a BMI (body mass index) between 18 and 30 No history of low back pain in the last 12 months or musculoskeletal diseases related to the lower back, upper and lower extremities.
Exclusion criteria:
Having the experience of low back pain in the last 12 months that requires a visit to a doctor, physiotherapist, chiropractor, or leave of absence more than three days from work or university Having professional and regular sports activities Deformity in the spine and other limbs (flat foot ,...)

Age
From **18 years** old to **30 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **24**

Randomization (investigator's opinion)
Randomized

Randomization description
To select samples, randomization is done in a simple and individual way. First, after screening all the clients, the people who met the Inclusion criteria are determined. Each one is assigned a number, and with the help of a paper lottery (by another person), 24 people are randomly selected from these numbers. On the test day, 12 of these 24 people are selected by paper lottery to form two groups of 12 people (the first group with step intervention and the second group with step and arm position change intervention). In this test, each participant acts as his own control.

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

Faculty of physical education and sport sciences

Street address

Faculty of Physical Education and Sport Sciences,
between 15th and 16th St., North Kargar st., Tehran,
Islamic Republic

City

Teharn

Province

Tehran

Postal code

1439813117

Approval date

2023-06-18, 1402/03/28

Ethics committee reference number

IR.UT.SPORT.REC.1402.038

Health conditions studied

1

Description of health condition studied

Evaluation of the effectiveness of intermittent intervention in reducing low back pain caused by prolonged standing.

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Trunk Muscles Activation

Timepoint

Every 10 minutes

Method of measurement

Electromypgraphy system

2

Description

Trunk muscles co-contraction Ratio

Timepoint

Every 10 minutes

Method of measurement

Electromypgraphy system

Secondary outcomes

1

Description

Lumbar lordosis

Timepoint

before and after experiments

Method of measurement

Kinovea system

Intervention groups

1

Description

Intervention group 1: On the day of the test, people prone to low back pain while standing for 1 hour, perform five minutes of intervention every 10 minutes in the following way: one foot is placed on the footrest for one minute - rest for three minutes - other foot for one minute It is placed on the footrest (4 times in total). Electromyography and lordosis angle data are recorded before and during each intervention.

Category

Prevention

2

Description

Intervention group 2: On the day of the test, people who are prone to low back pain while standing for 1 hour, they do five minutes of intervention every 10 minutes in the following way: One minute one foot on the footrests and hands crossed with shoulder flexion on the clavicle. It takes - three minutes of rest - another minute the foot is placed on the footrest and the hands are in the same position (4 times in total). Electromyography and lordosis angle data are recorded before and during each intervention.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical activity and sport sciences of Tehran University

Full name of responsible person

Saeedeh Abbasi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Physical activity and sport sciences of Tehran University

Full name of responsible person

Shahzad Tahmasebi

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Grant name

Physical activity and sport sciences of Tehran University

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Physical activity and sport sciences of Tehran University

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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Faculty of sport sciences of tehran university

Full name of responsible person

Saeedeh Abbasi

Position

Master Student

Latest degree

Bachelor

Other areas of specialty/work

Sport Medicine

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

Not applicable

Informed Consent Form

Undecided - It is not yet known if there will be a plan to
make this available

Clinical Study Report

Yes - There is 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

Not applicable

Title and more details about the data/document

File of intervention program protocol and statistical
analysis plan through publication of thesis and writing an
article

When the data will become available and for how long

Starting 6 months after publication of results

To whom data/document is available

The research team of this study and other clinical
academic researchers who are studying in favor of these
subjects.

Under which criteria data/document could be used

Researchers who intend to write a meta-analysis or
systematic review articles are allowed to access
document.

From where data/document is obtainable

Saeedeh Abbasi

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

The request will be responded after getting the approval
of university or the academic institution.

Comments