

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jun 2026

Effects of a workplace physical exercise intervention on the fatigue, work-related stress, and musculoskeletal disorders in the hand-woven carpet weavers

Protocol summary

Study aim

The survey of fatigue tolerance in carpet weaving The survey of work-related stress in carpet weavers The survey of prevalence of musculoskeletal disorders in carpet weaving Investigating the effect of workplace physical activity at fatigue tolerance in carpet weaving Investigating the effect of workplace physical activity on the stress caused by work in carpet weaving The effect of workplace physical activity on musculoskeletal disorders in carpet weaving

Design

The present study is a phase 3 of randomized controlled trial parallel group with parallel groups. In this study 100 carpet weavers with musculoskeletal problems will be selected through screening in Shahruod city and the countryside. The participants are randomly assigned into two groups of workplace physical activity group and the control group.

Settings and conduct

After the participants have been identified, informed consent form and a demographic profile questionnaire will be completed by participants. Then baseline evaluations are performed and the participants are randomly assigned into two groups of 50 workplace physical activity group and 50 control group. After classification, the workplace physical activity group participates in an on-site physical activity program for 24 weeks, each days of week for 20 minutes at an intermediate interval of work, and control group subjects continue to their routinely daily activities. At the end of 24 weeks post-test assessments will be similar to the baseline evaluations. Because of the nature of the study, participants are not blinded to allocation, but statisticians and evaluators were blinded from participant's allocation in groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: physician confirmation for participation

in the physical activity program; Ensuring health for participation in exercise training based on the PARQ; Lack of any neurological, severe respiratory, vascular, metabolic and skeletal diseases; Taking tranquilizers, or any special medication that affects the mental state. Exclusion criteria: History of depression, anxiety or other mental disorders; severe problems in the lower and upper extremities or the spine (fracture, cancer, deformity, progressive arthritis); history of joint replacement; lack of regular participation in exercise training programs; and receiving the recent physiotherapy program during the study period.

Intervention groups

The work place physical activity program includes 5 stretching exercises and 9 strengthening exercises that are selected based on previous studies. Specific training programs for each person according to his problems is designed. Stretching exercises were included the muscles of the wrists, elbow, shoulders, and thighs, starting with three 15-second repetitions, and extending over the course of the research to 6 repetitions of 30 seconds. The strengthening exercises were also included to the muscles of the wrists, elbow, and shoulders, and thighs, which are positional isometric and isotonic, and begin with three 15-second repetitions, and during the course of the research, there are 6 repetitions of 30 seconds. Each training session starts with 5 to 10 minutes of exercise and slow stretching for warming. The rest intervals between sets and exercises are 15 and 30 seconds respectively.

Main outcome variables

Musculoskeletal disorders were assessed using Nordic musculoskeletal questionnaire.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20170114031942N2**
Registration date: **2018-01-22, 1396/11/02**
Registration timing: **prospective**

Last update: **2018-01-22, 1396/11/02**
Update count: **0**

Registration date
2018-01-22, 1396/11/02

Registrant information

Name

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Name of organization / entity

Shahrood University of Technology

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-04-20, 1397/01/31

Expected recruitment end date

2018-08-22, 1397/05/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of a workplace physical exercise intervention on the fatigue, work-related stress, and musculoskeletal disorders in the hand-woven carpet weavers

Public title

Workplace physical exercise intervention for hand-woven carpet weavers

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria:

Age range from 19 to 50 years Musculoskeletal problems caused by weaving carpet

Exclusion criteria:

Age

From **19 years** old to **50 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **100**

Randomization (investigator's opinion)

Randomized

Randomization description

To allocate participants to research groups, a computerized list of random numbers is created using a computer software by one of the research colleagues. Then, one of the members of the research team who is not associated with the participants, divides them into the experimental (training) and control groups using block randomized with blocks 2 and 4. Assignment sequences are hidden by the envelopes encoded in the order numbered, and the envelopes are opened only after all participants basic evaluations have been completed. Because of the nature of the study, participants are not blinded by allocation, but researchers, statisticians and evaluators were blinded from subjects allocation.

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

Ethics committee of Shahrood University of Medical Sciences

Street address

Semnan Province, Shahrood, shahrood medical university

City

Shahrood

Province

Semnan

Postal code

۳۶۱۴۷-۷۳۹۴۷

Approval date

2017-12-31, 1396/10/10

Ethics committee reference number

IR.SHMU.REC.1396.149

Health conditions studied

1

Description of health condition studied

Musculoskeletal Disorders

ICD-10 code

M96

ICD-10 code description

Intraoperative and postprocedural complications and disorders of musculoskeletal system, not elsewhere

classified

Primary outcomes

1

Description

Musculoskeletal disorders

Timepoint

Musculoskeletal disorders in the baseline of the study (before intervention), 24 weeks after initiation of workplace physical activity and after 6 weeks follow up.

Method of measurement

using Nordic musculoskeletal questionnaire.

Secondary outcomes

1

Description

Fatigue symptoms

Timepoint

Was measured in the baseline of the study (before intervention), 24 weeks after initiation of workplace physical activity and after 6 weeks follow up.

Method of measurement

using the Need for Recovery Scale (Br-NFR).

2

Description

Stress level

Timepoint

Was measured in the baseline of the study (before intervention), 24 weeks after initiation of workplace physical activity and after 6 weeks follow up.

Method of measurement

Perceived stress scale - 10

3

Description

Ability of productivity

Timepoint

Was measured in the baseline of the study (before intervention), 24 weeks after initiation of workplace physical activity and after 6 weeks follow up.

Method of measurement

Work Ability Index

Intervention groups

1

Description

Intervention group: The work place physical activity program includes 5 stretching exercises and 9 strengthening exercises that are selected based on previous studies. Specific training programs for each person according to his problems is designed. Stretching exercises were included the muscles of the wrists, elbow, shoulders, and thighs, starting with three 15-second

repetitions, and extending over the course of the research to 6 repetitions of 30 seconds. The strengthening exercises were also included to the muscles of the wrists, elbow, and shoulders, and thighs, which are positional isometric and isotonic, and begin with three 15-second repetitions, and during the course of the research, there are 6 repetitions of 30 seconds. Each training session starts with 5 to 10 minutes of exercise and slow stretching for warming. The rest intervals between sets and exercises are 15 and 30 seconds respectively.

Category

Prevention

2

Description

Control group: Continuing the of routinely daily living activities

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

شهرستان شاهرود و حومه

Full name of responsible person

Aynollah Naderi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shahrood University of Medical Sciences

Full name of responsible person

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ebrahimi_mh@hotmail.com

Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Shahroud University of Medical Sciences

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
Shahroud University of Technology

Full name of responsible person
Aynollah Naderi

Position
Assistant Professor

Latest degree
Ph.D.

Other areas of specialty/work
Physical Education and Sports Science

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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

There is no more information.

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available