

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jun 2026

Evaluation of the effect of dry needling of upper trapezius trigger point on postural control parameters in patients with chronic neck pain

Protocol summary

Study aim

Evaluation of the effect of dry needling on the upper trapezius muscle on the postural control and balance

Design

A concealed, randomized, Double blinded, sham controlled clinical trial with a parallel group design of 30 patients.

Settings and conduct

This study will be conducted at the Neuromuscular Rehabilitation Research Center. Thirty patients with chronic neck pain will randomly assigned into two groups and in the experimental group, the participants will intervened via dry needling for 3 sessions one day apart, and the outcome measures will be evaluated for three times. The control group will be evaluated 3 times exactly the same as the experimental group. Patients and evaluator will be blinded about the allocation.

Participants/Inclusion and exclusion criteria

Inclusion criteria: The presence of chronic neck pain; trigger point in the upper trapezius muscle; pain more than 3 months; presence of neck pain between 3-6; presence of neck disability higher than 10 Non-inclusion criteria: The presence of any musculoskeletal problems in the lower extremities and balance impairment; diabetes; hemophilia; fear of needle; use of anticoagulants; pregnancy; any muscle involvement and the presence of trigger points in other muscles of the trunk

Intervention groups

Intervention group: 15 individuals will be intervened via dry needles for 3 sessions with one day among them. Patients will be asked to lie prone position and then the trigger points of upper trapezius muscle will be intervened via the needle for 2 minutes. Before treatment, immediately after treatment, and 10 days after treatment, the range of motion, disability index and postural control parameters will be evaluated. Control group: 15 patients will be evaluated for 3 times exactly in the same way as the experimental group.

Main outcome variables

Pain; disability; neck range of motion; center of pressure parameters

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20160808029264N5**

Registration date: **2019-07-01, 1398/04/10**

Registration timing: **prospective**

Last update: **2019-07-01, 1398/04/10**

Update count: **0**

Registration date

2019-07-01, 1398/04/10

Registrant information

Name

Rasool Bagheri

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 23 3344 1022

Email address

rasool.bagheri@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-09-23, 1398/07/01

Expected recruitment end date

2020-03-19, 1398/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty
Trial completion date
empty

Scientific title
Evaluation of the effect of dry needling of upper trapezius trigger point on postural control parameters in patients with chronic neck pain

Public title
The effect of dry needling on neck pain

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Chronic neck pain more than 3 month Presence of trigger point in the unilateral upper trapezius muscle Neck disability index more than 10 Pain intensity between 3 and 6

Exclusion criteria:
Any neurogenic pain and radiculopathy, cardiovascular disorders, diabetes, hemophilia Fibromyalgia syndrome Any musculoskeletal disorders in the lower limbs pregnancy Needle phobia Infection and edema in the treatment area Consumption of anticoagulant drugs Presence of trigger point in the other muscles of cervical and trunk regions

Age
From **18 years** old to **40 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant
- Investigator

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple randomization using random numbers table

Blinding (investigator's opinion)
Double blinded

Blinding description
The participants in this study are not aware of the allocation of dry needles or control groups. The researcher does not know the allocation of participants in the intervention and control groups.

Placebo
Not used

Assignment
Other

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Comitee of Semnan University of Medical Sciences

Street address

Basij Blvd., Semnan., Semnan Province

City

Semnan

Province

Semnan

Postal code

99951- 35198

Approval date

2019-06-11, 1398/03/21

Ethics committee reference number

IR.SEMUMS.REC.1398.056

Health conditions studied

1

Description of health condition studied

Neck pain

ICD-10 code

M99.01

ICD-10 code description

Segmental and somatic dysfunction of cervical region

Primary outcomes

1

Description

Pain

Timepoint

Before, immediately and 10 days after the dry needling

Method of measurement

100 mm visual pain scale

2

Description

Disabiity

Timepoint

Before, immediately and 10 days after the dry needling

Method of measurement

Disability questionnaire

3

Description

Range of motion

Timepoint

Before, immediately and 10 days after the dry needling

Method of measurement

Goniometer

Secondary outcomes

1

Description

Parameters of foot center of pressure

Timepoint

Before, immediately and 10 days after the dry needling

Method of measurement

Force plate

Intervention groups

1

Description

Intervention group: A 0.30 * 50mm acupuncture needle will used using piston method for 2 minutes at each trigger point for at least 5 points on the upper trapezius muscle. This treatment will take place within 3 sessions and one day apart.

Category

Rehabilitation

2

Description

Control group: There will be no intervention in this group and all of the parameters studied will be evaluated in the same way as the experimental group.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center,
Semnan University of Medical Scinces., Semnan., Iran.

Full name of responsible person

Dr Parviz Kokhaei

Street address

Basij Blvd., Semnan., Semnan Province

City

Semnan

Province

Semnan

Postal code

99951- 35198

Phone

+98 23 3336 4180

Fax

+98 23 3336 4180

Email

rasool.bagheri@ymail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Parviz Kokhaei

Street address

Basij Blvd, Semnan, Semnan Province.

City

Semnan

Province

Semnan

Postal code

99951- 35198

Phone

+98 23 3336 4180

Email

rasool.bagheri@ymail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Semnan University of Medical Sciences

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

Semnan University of Medical Sciences

Full name of responsible person

Maryam Mahdizadeh Langeroudi

Position

Master Science Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Basij Blvd., Semnan., Semnan Province

City

Semnan

Province

Semnan

Postal code

99951- 35198

Phone

+98 23 3336 4180

Email

rasool.bagheri@ymail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Rasool Bagheri

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Basij Blvd., Semnan., Semnan Province

City

Semnan

Province

Semnan

Postal code

99951- 35198

Phone

+98 23 3336 4180

Email

rasool.bagheri@ymail.com

Person responsible for updating data

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Rasool Bagheri

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Basij Blvd., Semnan., Semnan Province

City

Semnan

Province

Semnan

Postal code

99951- 35198

Phone

+98 23 3336 4180

Email

rasool.bagheri@ymail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

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

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

Undecided - It is not yet known if there will be 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

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