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

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Iran (Islamic Republic of)

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+98 23 3344 1022

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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

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Province

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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
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Sponsors / Funding sources

1

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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
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
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Person responsible for updating data

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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