Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparison between immediate effect of Superficial and Deep Dry Needling on Surface Electromyography in women with Upper Trapezius Active Myofascial Trigger Point

Protocol summary

Study aim

Comparison between immediate effect of Superficial and Deep Dry Needling on Surface Electromyography in women with Upper Trapezius Active Myofascial Trigger Points

Design

Quasi-experimental and double-blinded randomized clinical trials

Settings and conduct

A study is conducted at the Physiotherapy Clinic of the Faculty of Rehabilitation, Isfahan University of Medical Sciences. In this study, participants select from women with unilateral neck or shoulder pain with at least one active myofascial trigger point in the upper trapezius muscle and then randomly divided into superficial and deep dry needling group. After completing the consent form and the initial assessment, the participants based on their group, will receive one session dry needling.It should be noted that both the evaluator and participants are blind to the therapeutic groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: literate women 18 to 50 years, unilateral neck or shoulder pain with at least one active myofascial trigger point in the upper trapezius muscle for at least 3 months, not receiving analgesic therapy by patients. Exclusion criteria: fear of dry needling, local and systematic infection, people with fibromyalgia and neck osteoarthritis, people who used anticoagulant drugs, acute muscle trauma, history of neck or shoulder surgery, history of receiving dry needling at last 6 months, receiving physical therapy in the past month, dry needling contraindications like pregnancy, allergy, existence of implants and pacemakers

Intervention groups

For first group, deep needle inserted into myofascial trigger point with 10 times in and out movement and for second group the superficial needle inserted into superficial tissue above the myofascial trigger point and kept in for 2 to 3 minutes.

Main outcome variables

Surface Electromyography activity

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180918041059N1**
Registration date: **2018-10-02, 1397/07/10**
Registration timing: **registered_while_recruiting**

Last update: **2018-10-02, 1397/07/10**
Update count: **0**

Registration date

2018-10-02, 1397/07/10

Registrant information

Name

Zahra Hosseyninejad

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 34 3271 5289

Email address

z.hosseninejad69@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-11-21, 1396/08/30

Expected recruitment end date

2018-11-21, 1397/08/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison between immediate effect of Superficial and Deep Dry Needling on Surface Electromyography in women with Upper Trapezius Active Myofascial Trigger Point

Public title

Comparison between Superficial and Deep Dry Needling on Surface Electromyography of Myofascial Trigger Point

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Literate women 18 to 50 years Unilateral neck or shoulder pain with at least one active Myofascial Trigger Point in the upper trapezius muscle for at least 3 months Not receiving analgesic therapy by patients

Exclusion criteria:

Fear of dry needling Local and systematic infection People with fibromyalgia and neck osteoarthritis People who used anticoagulant drugs Acute muscle trauma History of neck or shoulder surgery History of receiving dry needling at last 6 months Receiving physical therapy in the past month Dry needling contraindications like pregnancy, allergy, existence of implants and pacemakers

Age

From **18 years** old to **50 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size

Target sample size: **50**

Randomization (investigator's opinion)

Randomized

Randomization description

simple randomization through random - number table

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, a double blinded method is used in which both the participants and the evaluator are unaware about the type and group of treatment .

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Isfahan University of Medical Sciences

Street address

Room 209, 2nd Floor, Building number 4, Isfahan University of Medical Sciences, Hezarjerib Ave

City

Isfahan

Province

Isfehan

Postal code

81746-73461

Approval date

2017-07-25, 1396/05/03

Ethics committee reference number

IR.MUI.REC.1396.3.308

Health conditions studied

1

Description of health condition studied

upper trapezius myofascial trigger point

ICD-10 code

M62

ICD-10 code description

Other disorders of muscle

Primary outcomes

1

Description

Surface electromyography activity

Timepoint

Before, immediately and one week after the intervention

Method of measurement

Surface electromyography device

Secondary outcomes

1

Description

Neck disability

Timepoint

Before and one week after the intervention

Method of measurement

Neck disability index questionnaire

Intervention groups

1

Description
Intervention group: For first group, deep needle (height: 40 millimeter, diameter: 0.2 millimeter) inserted into myofascial trigger point with 10 times in and out movement.
Category
Rehabilitation

2

Description
Intervention group: for second group the superficial needle (height: 13 millimeter, diameter: 0.2 millimeter) inserted into superficial tissue above the myofascial trigger point and kept in for 2 to 3 minutes
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Physiotherapy Clinic, Faculty of Rehabilitation, Isfahan University of Medical Sciences
Full name of responsible person
Navid Taheri
Street address
Isfahan University Of Medical Sciences, Hezarjerib Ave, Isfahan, Iran
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Esfahan University of Medical Sciences
Full name of responsible person
Dr. Shaghayegh Haghjoo Javanmard
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Email
research@mui.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Esfahan 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
Esfahan University of Medical Sciences
Full name of responsible person
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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