Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Effects of electrical dry needling in addition to routine physiotherapy on pain, range of motion and functional disability in patients with moderate knee osteoarthritis

Protocol summary

Study aim

To compare the effects of electrical dry needling in addition to routine physiotherapy on pain, range of motion, and functional disability in patients with moderate e knee osteoarthritis.

Design

Randomized clinical Trial. single-blinded, 92 samples, parallel groups, randomized by computer-generated method and further concealed envelop method used for allocation in the group. In the envelope, 1 will be code for the control group and 2 will be code for the experimental group.

Settings and conduct

The study will be conducted by Physical Therapy Department of the UNIVERSITY OF LAHORE Teaching Hospital, Lahore

Participants/Inclusion and exclusion criteria

Inclusion Criteria: • Age group 30-60 years. • Both male and female. • Patients with degenerated osteoarthritis. • Unilaterally, most painful knee will be treated. • Moderate osteoarthritis, Grade II and III. • Radiologically diagnosed knee osteoarthritis. • Chronic knee pain for more than three months. • Less than half an hour of morning stiffness. Exclusion Criteria: • Any previous trauma, fracture, subluxation, dislocation, surgery, or bony abnormalities around the knee joint in the past six months. • Cancer • Suppression of the immune system • Pregnancy • Recent infection • Any dermatological issues • Unexplained weight loss/gain • Dysfunction of bladder

Intervention groups

Group (A) Initially, routine physical therapy exercises will be performed including hot pack for 10 minutes of duration, manual therapy including passive mobilization of knee joint, strengthening exercises & muscle stretching. Group (B) participants will receive Electrical Dry Needling with routine physical therapy exercises. Electrical Dry Needling for 10 minutes at frequency of 2 Hz , width of 100us and continuous biphasic waveform through 2 diagonal channels of 4 needles for 3 times a week.

Main outcome variables

Pain, Range of motion and functional disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210321050752N5**
Registration date: **2023-12-19, 1402/09/28**
Registration timing: **retrospective**

Last update: **2023-12-19, 1402/09/28**
Update count: **0**

Registration date

2023-12-19, 1402/09/28

Registrant information

Name

Muhammad Waqas

Name of organization / entity

The University of Lahore

Country

Pakistan

Phone

+92 42 36532841

Email address

drwaqasfayyaz@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-01-17, 1401/10/27

Expected recruitment end date
2023-12-17, 1402/09/26
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effects of electrical dry needling in addition to routine physiotherapy on pain, range of motion and functional disability in patients with moderate knee osteoarthritis

Public title
Effects of electrical dry needling in addition to routine physiotherapy on pain, range of motion and functional disability in patients with moderate knee osteoarthritis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Age group 30-60 years. Patients with degenerated osteoarthritis. Unilaterally, most painful knee will be treated. Moderate osteoarthritis, Grade II and III. Radiologically diagnosed knee osteoarthritis. Chronic knee pain for a duration of more than three months. Less than half hour of morning stiffness.
Exclusion criteria:
Any previous trauma, fracture, subluxation, dislocation, surgery or bony abnormalities around knee joint in the past 6 months. Cancer or Suppression of immune system. Any neurological deficits in lower extremity. Pregnancy. Any dermatological issues. Unexplained weight loss/gain. Dysfunction of bladder OR Recent infection
Age
From **30 years** old to **60 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **92**
Randomization (investigator's opinion)
Randomized
Randomization description
The lottery method will be used for randomization by using random numbers and further concealed envelop method will be used for allocation in the group. In the envelop, 1 will be code for the control group and 2 will be code for the experimental group.
Blinding (investigator's opinion)
Single blinded
Blinding description
Assessor will only assess the patient at baseline and after follow-up for treatment outcomes. Assessor safe the data for follow-up and will not share it with any therapist or patient. At any stage, the assessor is unaware of the treatment and control group. The study was single-blinded. The assessor was unaware of the treatment given to either groups 1 or 2.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
The University of Lahore
Street address
Raiwind Road Campus: 1-Km, Raiwind Road, Near Thokar Niaz Big, Lahore
City
Lahore
Postal code
5400
Approval date
2023-01-17, 1401/10/27
Ethics committee reference number
REC-UOL-301-01-2023

Health conditions studied

1

Description of health condition studied
Pain
ICD-10 code
G89
ICD-10 code description
Pain, not elsewhere classified

2

Description of health condition studied
Functional disability
ICD-10 code
Z73.6
ICD-10 code description
Limitation of activities due to disability

Primary outcomes

1

Description
Pain
Timepoint
Pain, range of motion and functional disability will be assess at baseline, week 4 and follow up after 2 months.
Method of measurement

Numeric Pain Rating Scale (NPRS)

2

Description
Functional disability
Timepoint
Pain, range of motion and functional disability will be assess at baseline, week 4 and follow up after 2 months.
Method of measurement
Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Group (B) participants will receive Electrical Dry Needling with routine physical therapy exercises. Initially Routine physical therapy exercises will be performed including hot pack for 10 minutes of duration, manual therapy including passive mobilization of knee joint and muscle stretching. Then exercises like riding a stationary bicycle, range of motion exercises and strengthening exercises of the lower limbs with the hold of 5-10 seconds with 10 repetitions and 3 sets each. Group B participants will have Electrical Dry Needling for 10 minutes at frequency of 2 Hz , width of 100us and continuous biphasic waveform through 2 diagonal channels of 4 needles for 3 times a week along with routine physical therapy exercises. The electrical stimulation would be applied on the most painful knee of the patients in 3 sessions in a week.
Category
Rehabilitation

2

Description
Control group: Group (A) participants will receive routine physical therapy exercises. Initially routine physical therapy exercises will be performed including hot pack for 10 minutes of duration, manual therapy including passive mobilization of knee joint and muscle stretching. Then exercises like riding a stationary bicycle, range of motion exercises and strengthening exercises of the lower limbs with the hold of 5-10 seconds with 10 repetitions and 3 sets each. Each session will last for 30 minutes with 12 sessions on alternate days (3 sessions / week) will be given.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Physical Therapy Department of UNIVERSITY OF LAHORE Teaching Hospital, Lahore
Full name of responsible person
Dr. Asim Arif
Street address
Raiwind Road Campus: 1-Km, Raiwind Road, Near Thokar Niaz Big, Lahore
City
Lahore
Postal code
5400
Phone
+92 321 6597727
Email
asim.arif@uipt.uol.edu.pk

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Self Supported
Full name of responsible person
Hamail Chatha
Street address
Khayaban-e-Amin Lahore Pakistan
City
Lahore
Postal code
1234
Phone
+92 300 8874305
Email
70035678@students.uol.edu.pk
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Self Supported
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
Persons

Person responsible for general inquiries

Contact
Name of organization / entity

The University of Lahore
Full name of responsible person
Muhammad Waqas
Position
Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
St# 76, H#09 Muhala Sirajpura Darogawala Shalamar Town Lahore
City
Lahore
Province
Punjab
Postal code
54840
Phone
+92 323 5043603
Email
drwaqasfayyaz@gmail.com
Web page address
https://faculty.uol.edu.pk/Faculty/11621/Muhammad%20Waqas

Person responsible for scientific inquiries

Contact
Name of organization / entity
The University of Lahore
Full name of responsible person
Muhammad Waqas
Position
Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
Shalamar Town
City
Lahore
Province
Punjab
Postal code
54920
Phone
+92 323 5043603
Email
muhammad.waqas@uipt.uol.edu.pk

Person responsible for updating data

Contact
Name of organization / entity
The University of Lahore
Full name of responsible person
Muhammad Waqas
Position
Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
St# 76, H#09 Muhala Sirajpura Darogawala Shalamar Town Lahore
City
Lahore
Province
Punjab
Postal code
1234
Phone
+92235043603
Email
muhammad.waqas@uipt.uol.edu.pk
Web page address
https://faculty.uol.edu.pk/Faculty/11621/Muhammad%20Waqas

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is 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
Title and more details about the data/document
Pain and functional disability status
When the data will become available and for how long
6 months after publication.
To whom data/document is available
Academic and clinical research writers.
Under which criteria data/document could be used
Never without permission.
From where data/document is obtainable
From Muhammad Waqas through mail id. drwaqasfayyaz@gmail.com or through a Researchgate account. https://www.researchgate.net/profile/Muhammad-Waqas-26?ev=hdr_xprf
What processes are involved for a request to access data/document
From Muhammad Waqas through mail id. drwaqasfayyaz@gmail.com or through a Researchgate account. https://www.researchgate.net/profile/Muhammad-Waqas-26?ev=hdr_xprf

Comments