Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The investigation of the local vibration effect on the knee Osteoarthritis complications

Protocol summary

Summary

Regarding several useful effects of vibration on the muscle performance improvement, this study has been designed to investigate the local vibration effect on the knee osteoarthritis (KO) complications. 60 Patient with mild or moderate osteoarthritis were allocated into two groups (30 in each group) to receive either 1 minute 50 Hz Vibration on the quadriceps plus conventional physiotherapy protocol including Hot Pack, TENS and necessary instructions or only conventional physiotherapy protocol (as above). The interventions will be applied in 15 therapeutic sessions (5 days in week). Main outcome measures are: increase in Isokinetic muscle concentric contraction torque of both quadriceps, decrease in pain perception measured through VAS, increase in pressure pain threshold, increase in standing static and dynamic equilibrium, increase in passive and active knee range of motion without pain, decrease in knee joint effusion, decrease in knee Joint morning stiffness, increase in walking Speed.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138803061254N2**
Registration date: **2009-07-21, 1388/04/30**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2009-07-21, 1388/04/30

Registrant information

Name

Amir Hoshang Bakhtiary Davijani

Name of organization / entity

Semnan University of Medical Sciences

Country

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+98 23 1444 1983

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Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2009-06-22, 1388/04/01

Expected recruitment end date

2010-01-20, 1388/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The investigation of the local vibration effect on the knee Osteoarthritis complications

Public title

The investigation of the local vibration effect on the knee Osteoarthritis complications

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion Criteria: mild to moderate unilateral or bilateral chronic tibiofemoral osteoarthritis, ability to walk with or without stick Exclusion criteria: other conditions such as Diabetic, Musculoskeletal, neuromuscular, pulmonary disorders, Joint injection or other invasive interventions on knee during 3 months prior to study, hip or knee arthroplasty, consumption of any medicine, trauma to knee in last week, severe weakness

Age
From **35 years** old to **76 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **50**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Single blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethic comitte of Semnan University of Medical Science
Street address
Blv. Bassij, Education Affaire Building
City
Semnan
Postal code
Approval date
2009-05-26, 1388/03/05
Ethics committee reference number
2409

Health conditions studied

1

Description of health condition studied
Knee Osteoarthritis
ICD-10 code
M17
ICD-10 code description
Gonarthrosis [arthrosis of knee]

Primary outcomes

1

Description
Isokinetic muscle torque of Quadriceps and Hamstrings muscles during concentric contraction (Extension/Flexion) at angular velocity of 30°, 60° and 90° per second in each right and left leg
Timepoint
Before and After 15 Session theraputic intervention and 4 week after the last intervention
Method of measurement
Using Muscles Torque meter

Secondary outcomes

1

Description
1)Dynamic and static balance indices in anterior-posterior, Medial-lateral directions and overall balance index 2) Western Ontario and McMaster universities osteoarthritis index
Timepoint
Before and After 15 Session theraputic intervention and 4 week after the last intervention
Method of measurement
Visual Analogue Scale

Intervention groups

1

Description
Physiotherapy including Hot pack, conventional TENS and recomended instruction 5 days a week for 15 sessions
Category
Other

2

Description
Physiotherapy including Hot pack, conventional TENS and recomended instruction 5 days a week for 15 sessions in addition to Local 50 Hz Vibration for 1 minute on the quadriceps 5 days in a week for 15 session
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Neuromuscular Rehabilitation Research Center
Full name of responsible person
Street address
City
Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Semnan University of Medical Sciences

Full name of responsible person
Dr Faranoush

Street address
Educational and Research Affair, Semnan University of Medical Sciences, Basij Blvd.

City
Seman

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
empty

Domestic or foreign origin
empty

Category of foreign source of funding
empty

Country of origin

Type of organization providing the funding
empty

Person responsible for general inquiries

Contact

Name of organization / entity
Semnan University of Medical Sciences

Full name of responsible person
Amir Hoshang Bakhtiary

Position
Associate professor/ PhD

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty

Study Protocol
empty

Statistical Analysis Plan
empty

Informed Consent Form
empty

Clinical Study Report
empty

Analytic Code
empty

Data Dictionary
empty