Clinical Trial Protocol
Iranian Registry of Clinical Trials

21 Oct 2026

Comparison the effects of Tai Chi exercise and glucosamine supplementation on selected physical factors effective on balance and Falls Efficacy in elderly women with knee osteoarthritis

Protocol summary

Study aim

comparison the effect of Tai Chi exercise and glucosamine sulfate supplementation on some of the physical fitness factors associated balance and decreased the rate of falling in elderly women with knee osteoarthritis.

Design

This study is a clinical trial including one control and two intervention groups (Tai Chi and supplement), which eligible individuals randomly allocated to them. Allocation implemented by assigning different color cards to the subjects in parallel groups and in a non-blind research.

Settings and conduct

Purpose of this study is prevention of falling in the elderly women suffering from grade 2 and 3 knee osteoarthritis (according to kellegeren and Lawrence scale) in Qazvin. After medical confirmation, subjects divided into 3 groups (Tai chi, supplement and control groups). Before and after interventions, researchers examined balance, strength of lower limbs, Speed of movement, and fear of falling, in a non-blind research method

Participants/Inclusion and exclusion criteria

Entry requirements: Being over 60 years; Having knee osteoarthritis grade 2 and 3 according to the criteria of kellegeren and Lawrence; Independence in daily activities; Not having paralyzed part of the body; Ability to answer questionnaire; Exit Conditions: having regular exercise; having acute cardio-respiratory disease; Earning a score less than 24 in Mini-Mental State test; under treated for arthritis; perform knee joint replacement .

Intervention groups

In this research, there are three groups of subjects; Intervention group1: do Tai Chi exercise three times a week for three month; Intervention group 2: consumed glucosamine sulfate during this period With prescribing doctorand control group that did not receive any intervention during 3 month.

Main outcome variables

balance; lower limb strength; movement speed; flexibility and fear of falling.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180314039092N1**
Registration date: **2018-06-11, 1397/03/21**
Registration timing: **retrospective**

Last update: **2018-06-11, 1397/03/21**
Update count: **0**

Registration date

2018-06-11, 1397/03/21

Registrant information

Name
Elham Attari

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 28 3324 8863

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elhamattari58@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-05-20, 1396/02/30

Expected recruitment end date

2017-08-21, 1396/05/30

Actual recruitment start date

2017-11-21, 1396/08/30

Actual recruitment end date

2018-02-19, 1396/11/30

Trial completion date

empty

Scientific title

Comparison the effects of Tai Chi exercise and glucosamine supplementation on selected physical factors effective on balance and Falls Efficacy in elderly women with knee osteoarthritis

Public title

The effect of Tai Chi exercise and Glucosamine supplementation on prevention of fall in the elderly women whit knee osteoarthritis

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

over 60 years of age Having knee osteoarthritis grade 2 and 3 according to the criteria of kellegeren and Lawrence Independence in performing daily activities Not having paralysis in the body part Ability to answer questionnaire questions

Exclusion criteria:

Having sports activities having acute cardio-respiratory disease Earn a score lower than 24 of the Mini Mental State test They were under treatment for osteoarthritis Perform knee joint replacement Taking drugs that effective on balance

Age

From **60 years** old

Gender

Female

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **90**

Actual sample size reached: **75**

Randomization (investigator's opinion)

Randomized

Randomization description

Following to public announcement (banners and flyers) for aging and arthritis conference, the conference was held in Qazvin city, and subjects was drawn from participants meeting our research criteria through a random assignment method (random number table). For each group, the color cards (green, yellow, and blue card for the Tai Chi, supplement and control groups, respectively) was considered. After examining and confirming the subjects by medical professionals, eligible ones were referred to the project and a color card allocated to each one in a way that only researcher award of allocation process.considering the color of cards, researcher classified subjects into related groups and informed them of conditions and the interferes they would be received.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee Sabzevar Islamic Azad university

Street address

Dr Siadati Boulevard: Islamic Azad University of Sabzevar Complex

City

sabzevar

Province

Razavi Khorasan

Postal code

۹۶۱۸۹۵۶۸۷۸

Approval date

2017-03-05, 1395/12/15

Ethics committee reference number

IR.IAU.S.REC.1396.16

Health conditions studied

1

Description of health condition studied

Elderly women With Knee osteoarthritis

ICD-10 code

M17

ICD-10 code description

Osteoarthritis of knee

Primary outcomes

1

Description

Speed of movement

Timepoint

10 days before and 10 days after the three-month training period of Tai Chi and taking glucosamine supplementation were measured.

Method of measurement

The speed of movement was measured by using the time taken for a walk distance of 10 meters per person.

2

Description

static Balance

Timepoint

10 days before and 10 days after the three-month training period of Tai Chi and taking glucosamine supplementation were measured.

Method of measurement

Static balance was measured by amount of swing when person standing 30 seconds with open and closed eyes on Iranian scientist balance calculator system

3

Description

Dynamic Balance

Timepoint

10 days before and 10 days after the three-month training period of Tai Chi and taking glucosamine supplementation were measured.

Method of measurement

The dynamic balance was measured using the Time Up Go test. ،Time it takesfor a person until to lift up from the chair to go 3 meters distance and returns to the seat, it is measured

4

Description

lower limb strength

Timepoint

10 days before and 10 days after the three-month training period of Tai Chi and taking glucosamine supplementation were measured.

Method of measurement

The strength of the lower limb was measured based on the number of times sitting and rising from the seat for 30 seconds

5

Description

Flexibility

Timepoint

10 days before and 10 days after the three-month training sessions of Tai Chi and supplementation of glucosamine were measured.

Method of measurement

Flexibility was measured using the Sit and Rich test

Secondary outcomes

1

Description

body swing

Timepoint

10 days before and 10 days after the three-month period of interventions

Method of measurement

TUG test

2

Description

Fall Efficacy

Timepoint

10 days before and 10 days after the three-month period of interventions

Method of measurement

Using Fall Efficacy ScaleInternational (FES-I) questionnaire

Intervention groups

1

Description

First intervention group (training group):three sessions a week For three months, doTai Chi exercises(sun style) under the supervision of a physician and researcher

Category

Prevention

2

Description

Intervention group 2: Intervention group 1: this group consume Glucosamine Sulfate Supplement three times a week for three months, (Health Burst, American Drug) under supervision Dr. Seyed Hassan Niknejad Hasani has a medical system number 107,821 with a physiotherapy and rehabilitation medicine board.

Category

Prevention

3

Description

Control group: Control group: The control group did not receive any variables , Tai Chi and glucosamine supplementation during the three-month study period.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Qazvin Islamic Azad University

Full name of responsible person

Elham Attari

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
research administration of Tehran university (Alborz campus)

Full name of responsible person
Shahin Rafiee

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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
research administration of Tehran university (Alborz campus)

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
Alborz Campus of Tehran University

Full name of responsible person
Elham Attari

Position
PHD student

Latest degree
Master

Other areas of specialty/work
Physical education, The field of motor behavior

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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
Yes - There is a plan to make this available

Statistical Analysis Plan
Yes - There is 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
Yes - There is 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
No - There is not a plan to make this available

Title and more details about the data/document
Information for each person is announced for himself, But for the general public, the overall results are announced. If their personal information is required, their names will not be identified.

When the data will become available and for how long
After the end of the research and publication of the article , will allow access to personal information with each person's code.

To whom data/document is available
The information available to the researcher and people at the centers of science will be available and unclear the name of people.

Under which criteria data/document could be used
For publication of the article, if requested by the scientific center, information will be provided without mentioning the the name of persons

From where data/document is obtainable
The main investigator is Elham attari,00989122815641,elhamattari58@yahoo.com
Supervisor: Dr. Elaheh Arab Ameri,00989121504509

What processes are involved for a request to access data/document
Call the phone or send an email to the original researcher

Comments