

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

Protocol summary

Study aim

To evaluate the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

Design

A clinical trial with a control group, with parallel groups, randomised with random numbers table and sample size of 33 people.

Settings and conduct

Research is in the sports medicine field and at the Rasoul Akram Hospital is being carried out on the Taekwondo Premier League. In this study, we intend to measure the functional capacity of 33 taekwondo athletes by performing CPET testing and VO2max measurement. Simultaneous measurement of maximal power of the inspiratory muscle (Pi max) is performed with the Power Breathe machine. Training on how to inhale and exhale and measure diaphragm breathing power is performed by a Power Breathe. Then, at the end of the measurement, two factors of respiratory muscle strength measurement are PI max and S index. At first, the individual is assessed by the Inspiratory Muscle Training. The inspiratory muscles training machine is then adjusted to a degree equal to 50% of PI max and given to taekwondo men and the correct method of training with the machine is taught to them. muscle training with incentive spirometry is continued for up to 6 weeks, followed by individual performance tests.

Participants/Inclusion and exclusion criteria

Attending Taekwondo Premier League matches in 2019
Age over 15 years

Intervention groups

Athletes in the intervention group will undergo inspiratory breathing exercises using a power breathe device.

Main outcome variables

The effect of inspiratory breathing exercises on the performance of taekwondo men is evaluated.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200103045992N1**

Registration date: **2020-01-20, 1398/10/30**

Registration timing: **registered_while_recruiting**

Last update: **2020-01-20, 1398/10/30**

Update count: **0**

Registration date

2020-01-20, 1398/10/30

Registrant information

Name

Meisam Rezaei

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 6609 9062

Email address

maysamrezaei@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-12-29, 1398/10/08

Expected recruitment end date

2020-02-09, 1398/11/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

Public title

To study the effectiveness of inspiratory muscle training on the functional capacity of male taekwondo athletes

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

Male taekwondo athletes of professional league age over 15 years

Exclusion criteria:

Lack of physical fitness for tests

Age

From 15 years old

Gender

Male

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: 33

Randomization (investigator's opinion)

Randomized

Randomization description

Athletes were randomly divided into two groups of intervention with breathing muscle training and control groups. They were randomly assigned to either the intervention or control groups through the random numbers table & blocking

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 of Iran University of Medical Sciences

Street address

Hemat Highway next to Milad Tower, Tehran

City

Tehran

Province

Tehran

Postal code

۱۳۴۹۶۱۴۵۳۵

Approval date

2019-12-25, 1398/10/04

Ethics committee reference number

IR.IUMS.FMD.REC.1398.421

Health conditions studied

1

Description of health condition studied

Functional capacity

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The rate of improvement of respiratory capacity

Timepoint

At baseline and 6 weeks after

Method of measurement

Cardiopulmonary Exercise Test and Power breathe device

Secondary outcomes

empty

Intervention groups

1

Description

Respiratory muscles training using power breathe device

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Rasool Akram hospital

Full name of responsible person

Sara Lotfian

Street address

Rasool Akram hospital, Niayesh ave, Sattarkhaan st.

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1419783311

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maysamrezaei@yahoo.com

Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Seyed Abas Motevalian

Street address

Basement, Central Library, Iran University of Medical Sciences, Hemmat Highway.

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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

Iran 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**

Iran University of Medical Sciences

Full name of responsible person

Meisam Rezaei

Position

Resident

Latest degree

Medical doctor

Other areas of specialty/work

Sport Medicine

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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
Not applicable

Data Dictionary
Not applicable