

Clinical Trial Protocol

Iranian Registry of Clinical Trials

02 Jul 2026

Effect of 4 days of pre-competition carbohydrate loading on performance indicators (running distance, speed, number of repetitions of speed, body pressure) of soccer players: evidence based on GPS data.

Protocol summary

Study aim

Investigating whether short-term carbohydrate intake with a focus on loading can lead to improved performance in soccer players

Design

The present research has a control group, one side blind, randomized by lottery on 22 Premier League soccer players.

Settings and conduct

This project will be carried out in one of the football league teams in Tehran. For this purpose, 22 players are randomly divided into two groups receiving carbohydrates and control. Training is designed considering one game per week. Players then begin carb-loading four days before the race. GPS devices specific to football will be used to check performance indicators.

Participants/Inclusion and exclusion criteria

Premier League football players who had at least 3 years of playing experience in the Premier League.

Intervention groups

The intervention group consisted of carbohydrate loading, where they consumed 4.5 grams of carbohydrates per kilogram of body weight four days before the competition. The control group will not receive any intervention during the research and will use a normal diet of 50% carbohydrates, 30% protein, and 20% fat.

Main outcome variables

Running distance, number of running starts, metabolic power, average metabolic power, body pressure.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20221017056216N1**

Registration date: **2022-10-26, 1401/08/04**

Registration timing: **registered_while_recruiting**

Last update: **2022-10-26, 1401/08/04**

Update count: **0**

Registration date

2022-10-26, 1401/08/04

Registrant information

Name

Amir Hossein Ahmadi Hekmatikar

Name of organization / entity

دانشگاه ولیعصر رفسنجان

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-10-17, 1401/07/25

Expected recruitment end date

2022-11-22, 1401/09/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of 4 days of pre-competition carbohydrate loading on performance indicators (running distance, speed, number of repetitions of speed, body pressure) of soccer

players: evidence based on GPS data.

Public title

Effect of 4 weeks of carbohydrate loading on performance indices of soccer players: evidence based on GPS data

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria:

A history of playing at least three years in the premier football league not using supplements not using cigarettes not using caffeine pills And being in a Premier League team

Exclusion criteria:

Age

No age limit

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 22

Randomization (investigator's opinion)

Randomized

Randomization description

A lottery will be used for randomization. For this purpose, 22 papers were prepared, on 11 papers number 1 (intervention group) and on other 11 papers number 2 (control group) were written. 22 players were asked to take a piece of paper and announce the desired number to the researcher. The players were told that this type of team selection was a teaming method. Finally, 11 players were divided according to announcement number 1 into the intervention group and 11 players were divided into the control group with announcement number 2.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Rafsanjan University of Medical Sciences

Street address

Kerman-Rafsanjan, No. 401, Shahid Nouri St

City

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7718675679

Approval date

2022-10-17, 1401/07/25

Ethics committee reference number

IR.RUMS.REC.1401.142

Health conditions studied

1

Description of health condition studied

The studied state of physical performance of soccer players

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Running distance, number of running starts, metabolic power, average metabolic power, body pressure

Timepoint

It records data to measure GPS performance indicators during the game.

Method of measurement

Football gps device

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: Carbohydrate loading for four days and participating in a soccer match for 90 minutes.

Category

Other

2

Description

Control group: The control group will eat a normal diet and participate in a soccer match.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Does not exist

Full name of responsible person

Abdolreza Kazemi

Street address

Imam Khomeini Square, Vali Asr University, Rafsanjan

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Abdol Reza Kazemi

Position

Associate Professor

Latest degree

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Other areas of specialty/work

Exercise physiology

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Valiasr University of Rafsanjan

Full name of responsible person

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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

Valiasr University of Rafsanjan

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

Valiasr University of Rafsanjan

Full name of responsible person

Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Position

Associate professor

Latest degree

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Other areas of specialty/work

Exercise physiology

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Person responsible for updating data

Contact

Name of organization / entity

Tarbiat Modares University of Tehran

Full name of responsible person

Amirhossein Ahmadi Hekmatikar

Position

PhD student

Latest degree

Master

Other areas of specialty/work

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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

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available