Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 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

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Name of organization / entity
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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
Rafsanjan
Province
Kerman
Postal code
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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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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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

Abdol Reza Kazemi

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Exercise physiology

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Person responsible for updating data

Contact

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Full name of responsible person

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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