

Energy- and nutritional requirements in professional soccer: The ProSoccer study.

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Ethical review	Approved WMO
Status	Pending
Health condition type	Other condition
Study type	Observational invasive

Summary

ID

NL-OMON42726

Source

ToetsingOnline

Brief title

ProSoccer

Condition

- Other condition

Synonym

dietary requirements, nutritional requirements

Health condition

energie- en voedingsbehoefte van atleten

Research involving

Human

Sponsors and support

Primary sponsor: Hogeschool van Arnhem en Nijmegen

Source(s) of monetary or material Support: interne bekostiging door Hogeschool van Arnhem en Nijmegen

Intervention

Keyword: diet, energy requirements, exercise, physical activity

Outcome measures

Primary outcome

Primary: Energy expenditure will be assessed by doubly labeled water. Volume, duration, frequency and intensity of physical activity will be assessed by accelerometry. Energy intake, macronutrient and micronutrient intake will be assessed by repeated digital 24-h recalls.

Secondary outcome

Secondary: Body composition will be assessed by dual X-ray absorptiometry (DXA) and anthropometry (skinfold measurements). One venous blood samples (5 mL) will be taken to assess plasma micronutrient status.

Study description

Background summary

Many elite athletes utilize periods of intensified exercise training to enhance performance. When intensified training is not counterbalanced by sufficient recovery, overuse injury and overtraining may develop. Adequate nutrition intake is prerequisite to optimize recovery and to meet the energy demands of intense exercise. Although the energy demands and dietary requirements of many endurance sports have been well established, there is little information on the energy demands and physical activity patterns in soccer players. In addition, the dietary intake patterns of soccer players are largely unknown.

Study objective

In the current study we aim to assess the energy requirements and physical activity patterns in professional soccer players along with their nutritional intake patterns. As such, this study will provide valuable information to optimize the nutritional counseling and sport medical treatment of professional soccer players.

Study design

This is a cross-sectional study design with parallel measurements of energy requirements (doubly labelled water), physical activity patterns (accelerometry), and dietary intake (digital 24h recall), and body composition (DXA and anthropometry).

Study burden and risks

* During the baseline measurements, body composition will be assessed by DXA. The measurement is painless, non-invasive and involves low radiation exposure ($<10 \text{ mSv}$).

* For venous blood collection, a small needle will be inserted into the antecubital vein and blood is collected through a closed system attached to the needle. The discomfort of this procedure is transient and is comparable to having an injection by a needle, or when donating blood.

* A wrist-worn accelerometer will be worn during a 2-week period for 24h/day. This measurement is comparable with wearing a watch.

* The 24-hour dietary recalls will be collected by the *Compl-eat** software program. This program developed by Wageningen University guides participants through foods and drinks consumed during the previous day. A single 24-h recall takes approximately 30 to 45 minutes to complete. The 24-h recall will be conducted thrice.

* Energy expenditure will be assessed by the doubly labelled water method. Because the stable isotopes used in the doubly labelled water are non-radioactive, and also non-toxic in the doses used, the doubly labelled water method has been used extensively in human volunteers, and even in infants and pregnant women. The doubly labelled water requires the collection of 7 urine samples over a period of 14 days.

Altogether, it can be concluded that the burden and risks associated with this study are low. The study provides novel insight into the energy expenditure, physical activity patterns, and dietary intake in professional soccer players. As such, this study provides an important framework for dietary counselling in professional soccer players.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years)

Elderly (65 years and older)

Inclusion criteria

professional soccer player

18-45 years

Exclusion criteria

current injury or illness that prevents participation in the regular exercise training regimen

Study design

Design

Study type: Observational invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Diagnostic

Recruitment

NL

Recruitment status: Pending

Start date (anticipated): 15-10-2015

Enrollment: 60

Type: Anticipated

Ethics review

Approved WMO

Date: 13-10-2015

Application type: First submission

Review commission: IRB Nijmegen: Independent Review Board Nijmegen (Wijchen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

ID: 28079

Source: NTR

Title:

In other registers

Register

CCMO

OMON

ID

NL54343.072.15

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