ISRCTN29691307 https://doi.org/10.1186/ISRCTN29691307

Spinal Manipulative Therapy influence on soccer players' performance

Submission date
24/06/2018

Recruitment status
No longer recruiting

Registration date
02/07/2018

Overall study status
Completed

Last Edited
07/11/2019

Condition category
Musculoskeletal Diseases

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
There is a constant demand for sports performance enhancement. Changes in the alignment and biology of the spine can affect signals relating to body positioning (proprioception), control of movement and brain interaction, which could then reduce performance in sports. An athlete could be unaware of these changes, because they might not produce any noticeable symptoms. Spinal Manipulative Therapy (SMT), which involves a therapist physically moving the spine, can make adjustments to nerves and other parts of the spine that could influence sports performance.
The aim of this study was to investigate whether SMT can change elite soccer athletes' sprint and agility performance.

Who can participate?
Healthy soccer players aged 18-20

What does the study involve?
The participants are randomly allocated to receive a single SMT or dummy (placebo) manipulation for 10-15 minutes. Immediately before and after the treatment, they do the sprint and agility tests twice.

What are the possible benefits and risks of participating?
There are no expected risks or benefits of participating.

Where is the study run from?
CLIC Salvador, Brazil

When is the study starting and how long is it expected to run for?
January 2012 to April 2017

Who is funding the study?
The study was self-funded by the principal investigator

Who is the main contact?
Marcelo Botelho, quiropraxia@hotmail.com

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
3993

Study information

Scientific Title
Spinal biomechanical corrections via Spinal Manipulative Therapy (SMT) can help elite soccer athletes' performance: a randomized controlled trial with internally validated placebo

Study objectives
Asymptomatic spinal biomechanical alterations are believed to generate impaired proprioceptive input and motor control and central processing deficits, which could lead to loss of performance. Our hypothesis is that spinal biomechanical correctionsusing Spinal Manipulative Therapy can help soccer athletes' sports performance.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics and Research Committee at the Instituto Mantenedor de Educação Superior, 12/11/2012, 3993

Study design
Single-centre randomised placebo-controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use contact details to request a participant information sheet.

Health condition(s) or problem(s) studied
Vertebral subluxation complex (ICD-10: M99.1)

Interventions
20 elite soccer athletes were randomized 1:1 using a coin flip to SMT or placebo. A single intervention (SMT or placebo) was performed, with a total duration of 10-15 min per intervention. Crossover was not performed. The placebo intervention was internally validated. The sprint test was carried out on a 30-m straight line track, using a system of three photocell devices (Microgate, Bolzano, Italy), one at the beginning, one at 10 m (split time) and the last one at the 30-m mark. The athlete's starting point was with the preferred foot just before the starting line, and it was their own decision when to start the sprint, to avoid reaction time influence. The first barrier of photocells was located right after the starting line. Time recording was started when the athlete's body crossed the photocell barriers. This procedure was repeated twice with a rest interval of 5 minutes. The best value was used for analysis.
The agility test track was 20 m long. Athletes were required to run in a zigzag pattern while crossing four 5-m distance barriers located each at a 100° internal angle from the next. The time was measured by a system of two photocells (Microgate, Bolzano, Italy), one at the beginning of the track and another at the end. The starting athlete position was the same as used for the 30-m run. This procedure was repeated twice with a rest interval of 5 minutes. The best value was used for analysis.

Intervention Type
Procedure/Surgery

Primary outcome measure
1. 10-m and 30-m sprint times immediately before and after the intervention
2. Agility test immediately before and after the intervention

Secondary outcome measures
n/a

Overall study start date
09/01/2012

Completion date
06/04/2017

Eligibility

Key inclusion criteria
1. Athletes who train or compete for at least 5 days a week
2. Understood and signed an informed consent form

Participant type(s)
Healthy volunteer

Age group
Adult

Sex
Male

Target number of participants
20

Key exclusion criteria
1. Common listed contraindications to SMT, as included in the World Health Organization guidelines, as assessed by a sports medical doctor, including acute fracture, acute infections, neurological deficits, signs of joint instability or pathological ligament laxity
2. Acute musculoskeletal lesions that may prevent the athlete participating in the tests
3. Previously treated using SMT.

Date of first enrolment
12/02/2014

Date of final enrolment
17/02/2014

Locations

Countries of recruitment
Brazil

Study participating centre
Fluminense Football Club training facilities
R. Álvaro Chaves, 41 - Laranjeiras
Rio de Janeiro
Brazil
22231-220

Sponsor information

Organisation
N/A

Sponsor details
N/A
N/A
Brazil
N/A

Sponsor type
Not defined

Website
N/A

Funder(s)

Funder type
Not defined

Funder Name
N/A

Results and Publications

Publication and dissemination plan
Results to be published in a leading journal of the sports medicine and physiology field.

Intention to publish date
25/06/2018

Individual participant data (IPD) sharing plan
The datasets generated and/or analysed during the current study during this study will be included in the subsequent results publication.

IPD sharing plan summary
Not expected to be made available