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Effects of a conventional versus an alternative therapy program in male youth soccer players with jumper's knee

Submission date
09/06/2021

Recruitment status
No longer recruiting

Registration date
24/06/2021

Overall study status
Completed

Last Edited
24/06/2021

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
Jumper's knee, also known as patellar tendonitis, is a condition characterized by inflammation of the patellar tendon. This connects the kneecap (patella) to the shin bone (tibia). Jumper's knee weakens the tendon, and, if untreated, can lead to tears in the tendon.
This study tested the effects of a conventional (CON) versus alternative (ALT) therapy program on physical, psychological, and injury-/pain-related parameters in soccer players with Jumper's knee were examined.

Who can participate?
Children (14 - 16yrs) with Jumper's knee

What does the study involve?
Balance, strength, and stretching exercises were conducted for 20 weeks with sessions of 30 or 60 minutes.

What are the possible benefits and risks of participating?
Possible benefits of participating were improved performance and less follow-up injury; possible risks of participating were fatigue-related decrements in balance and strength performance.

Where is the study run from?
University of Duisburg-Essen (Germany)

When is the study starting and how long is it expected to run for?
December 2018 to November 2019

Who is funding the study?
Open Access Publication Fund of the University of Duisburg-Essen (Germany)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Study information

Scientific Title
Effects of a conventional versus an alternative therapy program on physical, psychological and injury-related parameters in sub-elite male youth soccer players with jumper’s knee

Study objectives
The ALT- compared to the CON-group will show significantly
1. Better physical and psychological performances
2. Lesser values of injury-/pain-related parameters over the course of a soccer season.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 06/12/2018, Human Ethics Committee at the University of Duisburg-Essen, Faculty of Educational Sciences (Universitätsstraße 2, 45141 Essen; +49 2011837237; ethik-psychologie@uni-due.de), ref: none provided

Primary study design
Interventional

Study design
Interventional randomized controlled trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Therapy of jumpe's knee in sub-elite soccer players

Interventions
After a pain-related rest period (13.3±4.1 days) the CON-group performed unilateral eccentric leg squats (3 sets of 20) on a flat surface, unilateral eccentric leg squats (3 sets of 20) on a decline board, static quadriceps and hip flexor stretching exercise (3 sets of 60
s). The sessions were conducted two to three times a week, lasted about 30 minutes and were supervised by a physical therapist.

The ALT-group performed unilateral balance exercises (4 sets of 30), Nordic hamstring exercise (4 sets of 10), isometric split squats (4 sets of 60s), isometric sumo squats (4 sets of 60s) on different unstable devices, Further difficulties like juggling, kicking a soccer ball, weights(1-20kg), as well as unexpected perturbations were added to adjust the exercises. The ALT-group also performed static quadriceps, hip flexor and hamstring stretch (3 sets of 60s).

The sessions were conducted three to four times a week, lasted about 60 minutes and were supervised by an athletic coach.

Intervention Type
Behavioural

Primary outcome(s)
Immediately after intervention; 6w, 16w, 20w follow-up:
1. Muscle power (Drop Jump, Jump and Reach test)
2. Change of Direction Speed (acyclic sprint)
3. Speed (FTT15 test, 30-m sprint)
4. Endurance (Yoyo Intermittent Recovery Test Level 1)

Key secondary outcome(s)
Immediately after intervention; 6w, 16w, 20w follow-up:
1. Achievement Motivation (Achievement Motive Scales-Sport)

Completion date
10/11/2019

Eligibility

Key inclusion criteria
1. Age 14 - 16 years
2. Diagnosis of Jumper's knee using ultrasound

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Child

Lower age limit
14 Years

Upper age limit
16 Years

Sex
Male

Total final enrolment
34

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
16/12/2018

Date of final enrolment
02/01/2019

Locations

Countries of recruitment
Germany

Study participating centre
University of Duisburg-Essen
Gladbecker Str. 182
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45141

Sponsor information

Organisation
University of Duisburg-Essen

ROR
https://ror.org/04mz5ra38

Funder(s)

Funder type
University/education

Funder Name
Universität Duisburg-Essen

Alternative Name(s)
University of Duisburg-Essen, Uni Duisburg-Essen, The University of Duisburg-Essen, University of Duisburg, University of Essen, Gerhard Mercator University of Duisburg, UDE

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
Germany

Results and Publications

Individual participant data (IPD) sharing plan
The current data sharing plans for this study are unknown and will be available at a later date.

IPD sharing plan summary
Data sharing statement to be made available at a later date