Author’s response to reviews

Title: Influence of typical handball characteristics on upper body posture and postural control in male handball players

Authors:

Daniela Ohlendorf (ohlendorf@med.uni-frankfurt.de)
Saskia Salzer (salzer.saskia@gmx.de)
Raffaela Haensel (RaffaelaHaensel@web.de)
Julia Rey (rey@med.uni-frankfurt.de)
Laura Maltry (maltry@med.uni-frankfurt.de)
Fabian Holzgreve (holzgreve@med.uni-frankfurt.de)
Jasmin Lampe (j.lampe@med.uni-frankfurt.de)
Eileen Wanke (wanke@med.uni-frankfurt.de)
David Groneberg (Groneberg@med.uni-frankfurt.de)

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Author’s response to reviews:

Point to point response

Reviewer reports:
Malgorzata Grabara (Reviewer 1):
Background section
There is the lack information about posture in athletes. In hypotheses Authors should add "in male handball players".

◊ We have added missing information and revised the hypotheses.

Methods

In reviewer's opinion it is not appropriate to merge the results of adolescent and adult handball players (15 to 45 years old), specially somatic parameters due to the development period.

◊ We did a new analysis where we deleted one player who was 15 years old. There were also 8 players aged 17 who were just before their 18th birthday at the time of the measurements. Therefore, these players
remained included in the evaluation in order to keep a good sample size. However, the statistical reanalysis did not show any significant changes.

Results

There are too many tables. The results are missing averages and standard deviations.

◊ We have deleted most of the tables and left only one table containing all the basic data of the upper body posture and postural control.

What are the standards of spinal curvatures angles (thoracic kyphosis and lumbar lordosis) and how many handball players meet these standards?

◊ So far there are few statements about standard values of the spinal curvature angles. Only Ohlendorf et al. (1) have published data of an age group of 18-35 years of healthy (non-athlete) men. These data were used for comparison in this study. A comparison of the spinal curvatures of adult male handball players with the data of adolescents (young handball players/ non-athletes (2)) is difficult due to the physiological differences between the two subject groups (growth, hormonal situation) and the different measuring systems.


Discussion and references

Authors should enclose some of references regarding posture, stability in handball players or overhead athletes.

◊ Thank you for the references. We have inserted almost all of them or found some other references and put them in the appropriate place.

In references section Authors should correct names of Journals to be consistent and consequent.

◊ done
The authors have performed a large data collection in this area which is impressive. However, the research question is according to me not really interesting. We already know from before that back players are taller than wing players. The difference in upper body posture and postural control does not give any new information for these findings. It is all body scaled. Furthermore, since different level players are measured this would influence the results and thereby difficult to study the research question correctly.

Although there is a difference in height between the players of different playing positions, they are not recorded in the statistical comparisons of the trunk length measured with the back scanner. So we concluded that the difference might be lead back to the lower extremities. This information is not yet mentioned in the available literature. Furthermore, we added this sentence at appropriate place in the discussion: In this context, however, it should also be noted that the players played in different leagues. It may also be possible that the height of the players may vary depending on their performance level.

We have deleted most of the tables and left the most important ones summarized on one table (table 1). In Table 1 we have also deleted less important parameters in order not to lose the focus of the main statement.

Specific comments:
page 3 line 84: non-top change in amateur
◊ Done

page 13 line 353-354: that you found that German handball players are taller than regular German society is not so interesting to find, especially when we already know that it is a bit natural selection when you play at high level in handball. Thus taller athletes have a bigger chance to play handball at higher level.
◊ We have integrated this aspect into the discussion.

The tables are difficult to read since it has so much information.
◊ We have deleted most of the tables and left only one table containing all the basic data of the upper body posture and postural control.

Editorial Policies
Declarations section
◊ We restructured the declaration section