Author's response to reviews

Title: Grip strength measurements at two different wrist extension positions in chronic lateral epicondylitis- comparison of involved vs. uninvolved side in athletes and non-athletes: a case-control study

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Version: 3 Date: 10 July 2010

Author's response to reviews: see over
Dear Referee,

We thank you for your valuable comments. Your suggestions have helped us improve our manuscript. The following are the responses or actions taken as per your comments.

1. **Is the question posed by the authors new and well defined?**
   The fact that grip strength is maximum in 10-15 degrees of wrist extension is well known in orthopaedic literature and hence the question does not add anything new.

Authors’ reply:

The research question is new. We do agree that 15 degree wrist extension had shown maximum grip strength. (Reference-2). This finding was shown in healthy adult subjects and not in lateral epicondylitis or athletes. 15 degrees position had the least extensor muscle activity which is also the therapeutic goal when we treat sportspersons with lateral epicondylalgia. Also another study in healthy adult subjects (Reference-18) showed that subjects’ self-selected position for maximum grip strength was at 35 degrees wrist extension. Hence this prompted the researchers to the current question. If there is already published literature available on lateral epicondylalgia, the authors would greatly appreciate and gladly update the manuscript with the said references.

2. **Are the methods appropriate and well described, and are sufficient details provided to replicate the work?**

   The cases and controls are not matched. The athletes were 8 (there is no definition for the criterion to consider a subject as an athlete: the authors mention that athlete subjects were those engaged in recreational sports involving tennis or badminton which requires repetitive use of wrist extension position). However someone who is involved in racquet sports on a regular or occasional basis has not been clarified. Also the authors have mentioned that the condition is present in 1-3% of the normal population. It would be very difficult to comment on the behavior of a condition with 1-3% prevalence by studying only 30 patients. Even out of the 30 subjects studied all the athletic group is male (8) while 17 of the non-athletic group is female. Hence the groups are not sex matched and hence cannot be taken as a control group for the athletes. The authors should have taken athletes without tennis elbow as the control group.

Authors’ reply:

The earlier title of the study

Comparison of grip strength measurements at 15 degrees and 35 degrees wrist extension positions in chronic lateral epicondylalgia- athletes vs. non athletes: a case-control study

Revised title of the study:
Grip strength measurements at two different wrist extension positions in chronic lateral epicondylitis- comparison of involved vs. uninvolved side in athletes and non-athletes: a case-control study

Accordingly, and as per suggestions from the other referee, we have now modified the manuscript. Expecting your valuable review comments on this revised version.

Now, case condition is the involved side and control condition is the uninvolved side. We have compared the grip strength between-sides in each of the two wrist extension positions in both athletic and non-athletic population.

We authors deeply appreciate the constructive review opinions and comments which made the revised draft much better in scientific merit and quality.

Thank you for your expert guidance,

High regards,
Authors.
Authors’ reply- referee-2 comments:

Dear Referee,
We thank your valuable comments. Your suggestions have helped us improve our manuscript. The following are the responses or actions taken as per your comments.

Major compulsory revisions:
Power of study- Included and explained in detail under data analysis section of materials and methods.
Randomization of participants- Appropriately done and elaborated.
Random order of testing- Appropriately done and elaborated.

Minor essential revisions:
Change of term- The term lateral epicondylalgia is now replaced with lateral epicondylitis throughout the manuscript.
Title name- Changed to suit the revisions and study design.
Line 8 page 1: Corrected to “two.”
Methods section- Sentences are made into shorter ones; previously average number of words per sentence- 36; presently- 20.
Line 36 page 2: Changed to “adult” subjects.
Classification of methods section- Suitable sub-headings have been incorporated within the methods section as study design, participant requirement, participant selection, testing procedure, outcome measures and data collection.
The details of study participants are now moved to results section.
Power of the study- explained suitably.
Line 3 page 3- corrected as per suggestions
Line 4-5 page 3- corrected as per suggestions
Line 19 page 3- Explained under sub-heading of structure of wrist splint
Hand grip, size of handle: was same for all since it was shown that the second-handle position was associated with maximum performance in grip strength measurements by American Society of Hand Therapists (ASHT). Hand size, we believe would have been addressed since our main comparison was between-sides (involved vs. uninvolved) where the difference in hand size between-sides would be nearly negligible.
Results: Tables- Changes done as per SMARTT guidelines
We authors deeply appreciate the constructive review opinions and comments which made the revised draft much better in scientific merit and quality.

Thank you for your expert guidance,

High regards,

Authors.