

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Efficacy of low-level laser therapy in patients with lower extremity tendinopathy or plantar fasciitis: systematic review and meta-analysis of randomised controlled trials
AUTHORS	Naterstad, Ingvill; Joensen, Jon; Bjordal, Jan; Coupe, C; Lopes-Martins, Rodrigo; Stausholm, Martin

VERSION 1 – REVIEW

REVIEWER	Johnson-Lynn, Sarah North Tyneside General Hospital
REVIEW RETURNED	10-Jan-2022

GENERAL COMMENTS	<p>This was a comprehensive review of the topic of LLLT in tendinopathies of the lower limb. The review appears complete with no further recent studies matching the inclusion criteria since article writing. The methodology is clear and repeatable with and the included data fully justifies the conclusions.</p> <p>Although the PRISMA checklist itself is not included in the provided material, it is clear how it has been used by the authors and the table including PEDro scores is clear and should be included in the final text.</p> <p>For length and readability, it may be worth considering amalgamating (or leaving out) some of the the summary box plots, particularly as they are included in the online supplementary material and are very effectively summarised in the results text.</p>
-------------------------	--

REVIEWER	Armagan Alpturker, Kezban Celal Bayar University Medical School
REVIEW RETURNED	12-Jan-2022

GENERAL COMMENTS	It has been a very important study on LLLT in patients with lower extremity tendinopathy or plantar fasciitis in terms of being comprehensive and prospective.
-------------------------	--

REVIEWER	Toprak, Ali Bezmialem Vakif University, Biostatistics
REVIEW RETURNED	16-Mar-2022

GENERAL COMMENTS	<p>1. In general, it should be given as the “mean ± standard deviation”. If the median will be given, “median(min - max)/(Q1-Q3)” is more appropriate.</p> <p>2. The symbol "n" should be used instead of "N" for frequency throughout the study. N is used for population number only.</p>
-------------------------	---

	<p>3. The representation of $p < 0.00001$ or $p = 0.0005$ is incorrect. $p < 0.001$ is more appropriate. If values such as 0.0025, 0.034... should be given using “=” (such as $p = 0.034$).</p> <p>4. P should be written as “p”. The symbol P is used for probability; not for significance level.</p>
--	--

REVIEWER	Herbison, Peter University of Otago, Preventive and Social Medicine
REVIEW RETURNED	23-Jun-2022

GENERAL COMMENTS	<p>I have only a few, relatively minor comments on the manuscript. The most major of these is about the risk of bias, The Pedro system adds the score for risk of bias which assumes equal weight for each element. But it is a commonly used scale, and has the correct elements included.</p> <p>The risk of bias section is well written but it is completely separate from anything else. It should be used so that the reader can interpret more clearly the reliability of the results.</p> <p>I think that reporting the results from the meta-analysis to 2 decimal places is too much. It just overwhelms the reader without adding anything to the results.</p> <p>In the first sentence of the introduction the authors report that tendinopathy and plantar fasciitis are common "in athletic and non-athletic population". Is this just all people?</p> <p>In the risk-of-bias section in the methods they say "Risk of publication bias was assessed...". Funnel plots do not just evaluate publication bias but all small sample biases. The authors get it right later in the manuscript.</p> <p>All of the studies are grossly underpowered and cannot answer the question they pose. What is the effect of this on the meta-analyses?</p> <p>In table 2 some of the studies have two lines (Luiu 2014 and Kiritsi 2010). Why is this? I cannot find an explanation.</p> <p>You only need to expand things once in the paper. ESWT is expanded at least twice.</p> <p>In the risk of bias section in the results it states "Outcome data were available from more than 15% of the participants in 14 (78%) of the trials". This seems an incredible amount of missing data</p>
-------------------------	---

REVIEWER	Ohn, May University Malaysia Sabah, medicine
REVIEW RETURNED	29-Jun-2022

GENERAL COMMENTS	Congratulations to all the authors for producing well-written article. To me, it looks flawless.
-------------------------	--

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Dr. Sarah Johnson-Lynn, North Tyneside General Hospital

Comments to the Author:

This was a comprehensive review of the topic of LLLT in tendinopathies of the lower limb. The review appears complete with no further recent studies matching the inclusion criteria since article writing. The methodology is clear and repeatable with and the included data fully justifies the conclusions. Although the PRISMA checklist itself is not included in the provided material, it is clear how it has been used by the authors and the table including PEDro scores is clear and should be included in the final text.

For length and readability, it may be worth considering amalgamating (or leaving out) some of the the summary box plots, particularly as they are included in the online supplementary material and are very effectively summarised in the results text.

Our response to the comment:

We thank the reviewer for the acknowledgements.

Comment by reviewer 1:

“... the table including PEDro scores is clear and should be included in the final text.”.

Our response the comment:

We agree with the reviewer and have included the table in the manuscript.

Comment by reviewer 1:

“For length and readability, it may be worth considering amalgamating (or leaving out) some of the summary box plots, particularly as they are included in the online supplementary material and are very effectively summarised in the results text.”.

Our response to the comment:

We agree that the manuscript could benefit from amalgamating or leaving out some of the figures to reduce length and increase readability. After consideration, we have placed Figure 7 (Figure 7 Subgroup pain results immediately after completed therapy - LLLT versus no intervention) and Figure 8 (Figure 8 Overall and subgroup pain results - LLLT versus other interventions) in the supplementary material. We agree with the reviewer that none of the forest plots should be presented twice. Some of the forest plots have been placed in the main manuscript while others have been put in the supplementary material.

Reviewer: 2

Dr. Kezban Armagan Alpturker, Celal Bayar University Medical School

Comments to the Author:

It has been a very important study on LLLT in patients with lower extremity tendinopathy or plantar fasciitis in terms of being comprehensive and prospective.

Our response to the reviewer:

Our sincere thanks for your review and positive feedback on the article.

Reviewer: 3

Dr. Ali Toprak, Bezmialem Vakif University

Comments to the Author:

1. In general, it should be given as the “mean \pm standard deviation”. If the median will be given, “median(min - max)/(Q1-Q3)” is more appropriate.

Our response to the comment:

Thank you very much for your review. Table 1 has been updated with the requested variance data.

“2. The symbol “n” should be used instead of “N” for frequency throughout the study. N is used for population number only.”.

Our response the comment:

We have amended this throughout the study.

“3. The representation of $p < 0.00001$ or $p = 0.0005$ is incorrect. $p < 0.001$ is more appropriate. If values such as 0.0025, 0.034... should be given using “=” (such as $p = 0.034$).

4. P should be written as “p”. The symbol P is used for probability; not for significance level.”.

Our response to the comments:

We have corrected the presentations of p-values accordingly to comments 3 and 4.

Reviewer: 4

Prof. Peter Herbison, University of Otago

Comments to the Author:

I have only a few, relatively minor comments on the manuscript. The most major of these is about the risk of bias, The Pedro system adds the score for risk of bias which assumes equal weight for each element. But it is a commonly used scale, and has the correct elements included.

Our response to the comment:

Thank you very much for your review and valuable input. We acknowledge the fact that all the risk-of-bias domains are weighted equally in the PEDro summery score, and that this can be a limitation of the method. Therefore, we took a closer look at the most obvious risk-of-bias in the included studies, that is, blinding of assessors and therapists; we subgrouped the trials by adequate and inadequate blinding and found that the risk-of-bias only had a neglectable impact on the point effect estimates and the statistical heterogeneity. The result of this analysis is available in the supplementary material figure S12-13.

Comment to the authors by reviewer 4:

The risk of bias section is well written but it is completely separate from anything else. It should be used so that the reader can interpret more clearly the reliability of the results.

I think that reporting the results from the meta-analysis to 2 decimal places is too much. It just overwhelms the reader without adding anything to the results.

Our response to the comment:

Thank you for the acknowledgement. We chose to present risk-of-bias immediately after the meta-analysis and believe that this allows the reader to interpret the reliability of the results.

After consideration we have chosen to keep two decimal places.

Comment by reviewer 4:

In the first sentence of the introduction the authors report that tendinopathy and planta fasciitis are common "in athletic and non-athletic population". Is this just all people?

Our response to the comment:

We have revised the sentence to the following:

“Tendinopathy and plantar fasciitis are disorders associated with substantial pain and loss of function in the lower extremity, especially prevalent in the athletic population but also common in the non-athletic population.”

Comment by reviewer 4:

In the risk-of-bias section in the methods they say "Risk of publication bias was assessed...". Funnel plots do not just evaluate publication bias but all small sample biases. The authors get it right later in the manuscript.

Our response to the comment:

We agree with the reviewer and now use the term small study bias instead.

Comment by reviewer 4:

All of the studies are grossly underpowered and cannot answer the question they pose. What is the effect of this on the meta-analyses?

Our response to the comment:

Significant treatment effects were found in many of the included trials. Most often, the statistical power of meta-analyses exceeds that of individual trials. Exceptions occur when only a few small trials are included in random effects meta-analyses and the statistical heterogeneity is high. We have now made changes to our conclusion, including the statement “Some uncertainty about the effect size remains due to wide confidence intervals and lack of large trials.”

Comment by reviewer 4:

In table 2 some of the studies have two lines (Liu 2014 and Kiritsi 2010). Why is this? I cannot find an explanation.

Thank you, this should be presented in the manuscript. We chose two lines because both authors provided two different dosages within the same session. Liu et al. treated the inferior pole of the patella in addition to two points to the medial and lateral site of the patellar tendon insertion but provided a different dosage to the areas. Kiritsi et al. combined a continuous irradiation over the origin of the plantar fascia on the medial calcaneal tubercle with two continuous sweeps of the probe along the proximal medial border of the fascia. We have now amended the table by adding a footnote, “× Two different dosages applied within the same session.” and added a description in the results: “Two different LLLT doses were applied in the same session in two of the trials.60 71”

Comment by reviewer 4:

You only need to expand things once in the paper. ESWT is expanded at least twice.

Our response:

Thank you, this has been amended.

Comment by reviewer 4:

In the risk of bias section in the results it states "Outcome data were available from more than 15% of the participants in 14 (78%) of the trials". This seems an incredible amount of missing data.

Our response:

Thank you for noticing this error. The correct number is 85 percent, and we have amended this in the text; “Outcome data were available from more than 85% of the participants in 14 (78%) of the trials.”

Reviewer: 5

Dr. May Ohn, University Malaysia Sabah

Comments to the Author:

Congratulations to all the authors for producing well-written article. To me, it looks flawless.

Our response to the reviewer:

Our sincere thanks for your review and the positive feedback on the article.

VERSION 2 – REVIEW

REVIEWER	Herbison, Peter University of Otago, Preventive and Social Medicine
REVIEW RETURNED	18-Aug-2022

GENERAL COMMENTS	<p>I am mostly happy with the responses to my (and others) comments. But I still think that the results have been reported with too much precision and this detracts from the ease of understanding of the paper. I would like to explain further.</p> <p>The authors have chosen to report the results of changes on a 100 mm visual analogue scale (VAS) to two decimal places. The implication of this is that the authors think that, on a VAS, one hundredth of a millimetre is important. This is never going to be true. My opinion is that even reporting to the nearest millimetre is likely to be too precise.</p> <p>This is compounded by the width of the confidence intervals. For examples, the first result in the abstract is 13.15 mm 95% CI: 7.83-18.48. The implication of this is that the best estimate is 13.15 mm with the true answer most likely falling in the range 7.83 to 18.48. The extra precision, while not wrong, adds nothing to the result being reported as 13 mm 95%CI 8 to 18.</p>
-------------------------	--

	I will leave this to the editorial team to decide how important it is.
--	--