Middle East Journal of Rehabilitation and Health Studies
Volume 8 · Issue 4 · e104139

OPEN PEER REVIEW

Immediate and Short-term Effect of Quadriceps Kinesio-Taping on Postural Sway in Children with Spastic Cerebral Palsy: A Before-After Trial

Zahra Ahmadizadeh, Atefeh Aminianfar, Karim Ayoubi

SUBMITTED	REVISED	ACCEPTED	DOI
25 Apr 2020	29 Jun 2021	3 Jul 2021	10.5812/mejrh.104139

About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

More about open peer review: brieflands.com/knowledgebase/opr

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1 Original submission

3 comments · 1 Jun 2020 – 3 Jun 2020

Referee 1 Reviewer

MAJOR REVISION 1 Jun 2020

• The writing in the article needs to be revised by a native speaker.
• In the introduction section of the abstract, kinesiotape is not mentioned at all.
• Note the spasticity of children with CP in the methods.
• In the results section, the statistical analysis methods used and the results for each variable should be mentioned separately.
• In the introduction section, KT must be written in full the first time it is used.
• Given the numerous articles on the effect of kinesiotape on children with CP, including systematic reviews, the need for this study is not clear. Please provide further justification and mention the novelty of the present study.
o The accumulative effect of ankle kinesio taping on postural control in children with hemiparetic cerebral palsy
o Effects of Kinesio Taping Technique in Children with Cerebral Palsy: review
o Effects of kinesiology taping in children with cerebral palsy: a systematic review
o Effects of Lower Limbs Kinesio Taping on Balance Ability in Children With Cerebral Palsy: A Pilot Randomized Clinical Trial
o The effectiveness of taping on children with cerebral palsy: a systematic review
o The effects of Kinesio taping on sitting posture, functional independence and gross motor function in children with cerebral palsy
o The impact of Kinesio taping technique on children with cerebral palsy
o Therapeutic effects of kinesiotaping in children with cerebral palsy: a systematic review.
• Is there no difference between the balance of a 4-year-old child and that of a 12-year-old teenager? The age range seems to be very wide.
• The inclusion and exclusion criteria have no references.
• Note the sampling frequency of the force plate.
• Please use “COP” rather than “center of gravity”.
• Please correct the measured variable to “the standard deviation of the COP displacement” throughout the results and discussion.
• Was the velocity of the displacement of the COP measured? This device also provides this variable, which is a good indicator for evaluating interventions.
• Explain how to use repeated-measures analysis of variance, since you only had one intervention group and no control group.
• Table 1 is incomplete. Please correct the variables.
• The charts do not have titles or units of measurement for the horizontal and vertical axes.
• Given that balance control strategies start with the ankle, not the pelvis, and that the researcher emphasizes improving hip and knee strategies that are actually activated when there is a disturbance, but there was no disturbance in this study, please explain the need to use this justification in the discussion.

Referee 2 Reviewer

MINOR REVISION 1 Jun 2020

The title of the article is appropriate.
The abstract is concise and useful.

Introduction: At the beginning of the introduction, the research problem is well addressed, but the need for the research is not clearly explained. It is not clear why the author intends to assess the effect of kinesiotyping on postural sway. It seems necessary to further examine previous findings to identify defects and deficiencies.
The author must also state the reason for choosing the QcM muscle for topping.
It is suggested that more references be cited in the introduction and discussion sections.
Research Methods:
Demographic information is not available.
How many clients have hemiplegia, and how many have diplopia?
Discussion and conclusion:
The results are well analyzed; however, it is suggested that more sources be cited to support the conclusions.
Limitations:
Could the small number of subjects be a limitation?

Associate Editor MAJOR REVISION 3 Jun 2020

According to the reviewer's comments, the manuscript requires major revision.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:

Introduction

There are many unreferencesed sentences. Be sure to give all sentences the appropriate reference.

Corrections were done

There are obvious English spelling errors in the text and some of the sentences have obvious grammatical flaws, so re-editing the text should be done by a person fluent in English.

Corrections were done

The necessity of this study is not clear, the researcher should state his purpose and hypothesis based on previous articles about this research.

Corrections were done

In the statement section, the necessity of doing the work should be addressed with reference to several articles.

Corrections were done

The issues raised only address the benefits of kinesiotype and are irrelevant.

Corrections were done

materials and methods:

The study does not have a control group, how is it concluded that stability was present due to the intervention?

This intervention is before-after and without control group. It is also mentioned in the study limitations.

How does the researcher justify that by applying kinesiotype and by inhibiting muscle, he succeeds in increasing postural stability?

1- Improving the function of the quadriceps muscle then improves the postural stability and is required to maintain the postural function of this muscle (explanation was added in the introduction section)
2- CP has been associated with deficits in the reception of somatosensory stimulus due to injuries in thalamic-cortical pathways, which could compromise the performance of tasks that require proprioception and motor planning, and could compromise motor inputs sent to muscles by descending corticospinal tracts (1)

There is a problem with the way the work is done, how is the noise of the device taken? What does it mean to examine changes in standard deviation? What formula is used, please explain and what is frequency?

Corrections were done in Instrument section.

What type of repeated measures statistical test is used?

Corrections were done in Result section.

Add a figure of how to apply the kinesiotype. Due to the completion of the intervention, it was not possible to have photos of clients. In order to send a photo, several parents of children refused to perform the brigade for their children due to the corona outbreak.

Results

The number of subjects is not known, somewhere 17 to somewhere 30?

Corrections were done

Add a patient profile table to the article individually? It is not clear why Ashworth was measured.

The severity of spasticity has been reported as an underlying variable to describe the condition of children with cerebral palsy.

The details of the children were added in detail in the results section

Table 1 is very incomplete. It is not clear what the numbers 1, 2, etc. represent. Add confidence interval and impact size to the table, correct the table description and its sub-sheet.

Numbers 1 to 5 are evaluation sessions. (Table modified)

In the Bonferroni table, it should be added to the results section with a confidence interval completely.

Due to the fact that Bonferroni Correction was used in this study and the P value has changed, its report is usually written in the Result section and the details are not written in the article due to the P value change.

The diagrams should be drawn as bars and the standard deviation in the diagrams should be given as a load. Explanations of the complete diagrams as well as abbreviations should be explained at the bottom of the chart.

Due to the fact that the bar chart does not have the ability to show changes and comparisons between 5 evaluation sessions, it has not been used.

The results section should be written statistically and the P-value and size of impact should be mentioned in all significant and non-significant cases.

Corrections were done

Discussion

It is full of grammatical problems. Some sentences do not have verbs.

Corrections were done

Please mention the purpose of the use of Kinesiotype in the Introduction, so discussion section can be based on that.

Corrections were done

If the goal is to facilitate contractions of the knee extensions, how can spasticity be prevented from intensifying? Because the common pattern of spasticity is extension in the lower extremities.

In children with cerebral palsy, spasticity of the quadriceps muscle then weakens.

There are decreased knee extensor peak torque in children with CP compared with healthy children (2)

Write a systematic discussion, first the results obtained, then justify these results, examine the pros and cons and apply the results, and then the final result.

Corrections were done

Reviewer 2

.The title of the article is appropriate
.The abstract is concise and useful
Introduction: At the beginning of the introduction, the issue of research is well addressed, but then its necessity is not well clarified. It is not clear why the author intends to assess the effect of kinesiotyping on postural sway. It seems necessary to further search in previous findings in order .to find defects and deficiencies

The correction was done
.The author must also state the reason for choosing QcM muscle for topping

The correction was done

.It is suggested that more references be made in the introduction and discussion section

The correction was done

:Research Methods
,Demographic information is not available

This data was added in results

?How many clients are hemiplegia and how many are diplopia

This data was added in results

:Discussion and conclusion
.The results are well analyzed, however it is suggested to refer to more sources for conclusions

The correction was done

:Limitations
?Could the small number of subjects be a limitation

The correction was done

:Reviewer 3
Article literature needs to be rewritten by a native •

Writing editing was done.

In the section of the introduction of the abstract, the kinesiotape is not mentioned at all. The • correction was done

.Note the spasticity of CP children in the methods •

The correction was done

In the results section, the statistical analysis methods used and the results of each of the • .variables should be mentioned separately

The correction was done

.In the introduction section, KT must be written in full for the first time •

The correction was done

Due to the numerous articles on the effect of kinesiotape on CP children, even as systematic • reviews, the need for this study is not clear. Please justify more and mention the novelty of the .present study

Thanks you for your Suggested Articles, the novelty of this study was added in introduction. The systematic reviews reported that there is insufficient evidence of KT effects.

o The accumulative effect of ankle kinesio taping on postural control in children with hemiparetic cerebral palsy
o Effects of Kinesio Taping Technique in Children with Cerebral Palsy: review
o Effects of kinesiology taping in children with cerebral palsy: a systematic review
o Effects of Lower Limbs Kinesio Taping on Balance Ability in Children With Cerebral Palsy: A Pilot Randomized Clinical Trial
o The effectiveness of taping on children with cerebral palsy: a systematic review
o The effects of Kinesio taping on sitting posture, functional independence and gross motor function in children with cerebral palsy
o The impact of Kinesio taping technique on children with cerebral palsy
.o Therapeutic effects of kinesiotaping in children with cerebral palsy: a systematic review

Is there no difference between the balance of a 4-year-old child and a 12-year-old teenager? •
.The age range seems to be very wide

.Many studies about children use this range for inclusion criteria

Santos et. al. 6-12 years (1)

.Inclusion and exclusion criteria have no references •

The correction was done

.Note the frequency sampling of the force plate •

The correction was done

."Please correct "COP" and not "center of gravity •

.The correction was done

Please correct the variable measured as "the standard deviation of the COP displacement", in •
.whole the results and discussion

The correction was done

Was the velocity of the displacement of the COP measured? Because this device also gives this •
.variable and is a good indicator for evaluating interventions

Due to financial issues, it was not possible to measure the velocity of the displacement of the COP

Explain how to use analysis of variance with the repeated measure, since you only had one •
.intervention group and no control

.Repeated measure use for repeated assessment in one group

.Table 1 is incomplete. Please correct the variables •

The correction was done

.Charts do not have a title and unit of measurement for horizontal and vertical columns •

The correction was done .

• Given that balance control strategies start with the ankle, not the pelvis. And given that the researcher emphasizes improving hip and knee strategies that are actually activated when there is a disturbance, and there was no disturbance in this study, please explain the need to use this justification in the discussion.

All children had orthopedic high top shoes or AFO and ankle movement was limited, so they had to use a hip strategy to maintain postural stability.

:Associate Editor's Comments

:Associate Editor 1

.According to the reviewer's comments, the manuscript needs to be revised majorly

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:EIC Decision

Dear Corresponding Author
Your valuable manuscript has been reviewed by our peer reviewers who reported some MAJOR issues that need to be addressed in the manuscript. I would also like to emphasize that the English writing needs to be edited by NATIVE SPEAKER of ENGLISH.
Please revise the manuscript according to the provided comments and the following suggestions, highlight the changes and resubmit it along with a point by point response letter to the reviewer's comments. We are looking forward to hearing from you as soon as possible.
In the following you may find some general comments that may help you to make your manuscript more clearly informative:
General Editorial concerns:
Please make sure that the following issues also have been addressed accurately in addition to the reviewer's comments.
In the abstract;
1) Reporting all interventions and instruments used in the study.

The correction was done

2) Reporting important findings of the study in the "Results" section including mean changes (SD) and exact P values (for example; P=0023, instead of P<0.005

The correction was done

3) The conclusion should be written according to the "Objective" of the study.

The correction was done

4) Keywords should be chosen by using MeSH.
The correction was done

In the main text;
1) Every used abbreviation should be defined at the first time of use.
The correction was done
2) Report and state the approval of the Local Ethics Committee on the study in the “Methods” section. The correction was done
3) Report the process of the Singing consent form for all participants in the text. The correction was done

4) Present the validity and reliability of used instruments and tools. The correction was done

5) Always use the maximum of two decimal places for presenting data, for example, “21.36” instead of “21.357”. The correction was done

6) Always present error line (SD or SEM), when presenting data by the bar or line graphs.
The correction was done

7) Do NOT repeat reporting data in both table and graph formats. It is the reviewer comment that I use table and graph.

8) All used abbreviations in tables should be defined in the legend of tables. The correction was done

9) All numbers and data should be written in English format, for example; “3.44” instead of “3/44”. The correction was done

10) Report on the limitations of the study and discuss how those limitations may affect the results
.The correction was done

References
1) check the references carefully, all mentioned references in the text should be introduced at the "References Section". The correction was done

2) Use Endnote software with the "VANCOUVER" style to enter your references, It is useful for your future research as well. The correction was done
Kind regards
Editor in Chief

1. dos Santos AN, Visicatto LP, de Oliveira AB, Rocha NACF. Effects of Kinesio taping in rectus femoris activity and sit-to-stand movement in children with unilateral cerebral palsy: placebo-controlled, repeated-measure design. Disability and Rehabilitation. 2019;41(17):2049-59.
2. dos Santos AN, Rocha NACF. Immediate effect of kinesio taping on knee extensor torque of children with Cerebral Palsy: Three case reports. NeuroRehabilitation. 2018(Preprint):1-5.

2 Revision 1

6 comments · 28 Mar 2021 – 15 Apr 2021

Referee 2 Reviewer

ACCEPT 28 Mar 2021

Dear Editor
Hello
Corrections made by the author are accepted.
Sincerely

Referee 3 Reviewer

MAJOR REVISION 31 Mar 2021

Correct writing errors.
The results need to be modified.
Modify tables and figures.

Referee 4 Reviewer

MINOR REVISION 7 Apr 2021

Thank you for giving me the opportunity to review the manuscript " Immediate and Short-term Effect of Quadriceps Kinesio-taping on postural sway in Children with Spastic Cerebral Palsy: a before-after trial".
Abstract
The conclusion needs to be rewritten. Results should not be repeated.

Introduction
Almost all the concerns were addressed. Here are some suggestions for improvements...

- Add references to "A few studies evaluated the effects of KT in CP children, and the results are controversial".
- In the last paragraph where the purpose of the study is stated, in line 54, the author's reasons for the need to further investigate "the immediate and short-term effects of KT" should be summarized in one to two lines.

Methods
Well-written methods!
Results
Page 6, line 151 — unclear. What is meant by: “In this study, seventeen children with hemiplegia and ten children with diplegia participated” when you apparently had 30 participants (page 3, line 60)? What was the actual number of participants?
Conclusion
The discussion seems rather logical and well written.

Rasool Bagheri Reviewer

MAJOR REVISION 14 Apr 2021

The manuscript is poorly written, and several grammatical errors remain in the text after revision. A grammar check should be done throughout the manuscript.
Some grammatical errors are listed:
Line 3: “so the aim of 6 this study is to investigate” should be changed to “so the aim of 6 this study was to investigate”.

Line 8: “at the age of 4 to 11 years” should be changed to “with the age of 4 to 11 years” or “aged between 4 and 11 years”.
Line 9: “Immediate and short-term use of KT” should be changed to “Immediate and short-term effects of KT”.
Line 10: “by use” should be changed to “using” or “through the”.
Line 10: “force plate” is an instrument, not a measure; this could be replaced by “COP oscillation”, etc.
Line 14: “The results showed that in children with spastic CP immediate use of KT in QcM could not change” is vague. It might be better to change it to “the immediate effects of KT on the QcM have not changed the COP displacement”.
Introduction:
In Line 36, you said that “One of the most important problems in CP children is postural control problem”. What is meant by posture control? Do you equate posture control with COP oscillation? The author should give a full explanation of the previous background on COP fluctuations in children with spastic cerebral palsy.
Materials and Method:
You said that “This is a before and after clinical trial study without control group”. Moreover, this study was a non-blinded and non-randomized clinical trial study. So, the bias in this clinical study was very high, and it was very difficult to control this bias. Please clarify.
About COP oscillation: you clarified how you measured the COP. However, which of the measured parameters were examined? Was the mean or standard deviation of COP oscillation assessed?
According to the equations you stated in the manuscript, the excursion of the center of pressure in the anteroposterior direction and the excursion of the center of pressure in the mediolateral direction were assessed. Perhaps it would have been better to evaluate the velocity and the path length in these directions.
Results:
“In this study, seventeen children with hemiplegia and ten children with diplegia participated”; however, in the method section, you said that “In this study, 33 children with CP participated”. Which one is correct?
Please clarify the exact commercial information about “SPSS-16”.

Associate Editor

MAJOR REVISION 14 Apr 2021

Dear authors
Thank you for submitting the manuscript to MEJRH.
Please review and correct the following:
- The ethical code should be mentioned.
_ Have the manuscript edited by a native English editor.

According to the reviewers' comments, your article needs major revision.

Editor-in-Chief

MINOR REVISION 15 Apr 2021

Dear Authors
According to the reviewers’ and associate editor’s comments, your article needs minor revision. Please respond to the reviewers’ comments and submit the required files.
In addition, please cite two related articles published in the MEJRH.

3

Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:

Dear Editor

Hello

Corrections made by the author are accepted.

Sincerely

thank you for your valuable comments

Reviewer 2

Correct writing errors. The correction was done.

the results need to be modified. The correction was done

Modify tables and figures. The correction was done

Comments in the text:

- In your study, not all evaluations showed significant results, so state exactly which evaluation has P <0.05. We used Bonferroni Correction for analysis of the difference between five sessions' assessments, so the significant level is 0.01 (because we had 5 assessments), often that is not written in the article so we only reported that.
- Only in the Sagittal plane? But it can be seen from the figure and the table that the changes in both the frontal plane and the sagittal plane were significant, It is suggested that the P-Value of each step be mentioned separately in the table with the step before KT Yes because in this study the significance level for the Bonferroni Correction test is 0.01.
-

Reviewer 3:

The manuscript is written very weakly and several grammatical errors are seen in the text after revision. A grammar check should be done throughout the manuscript.

Some grammatical errors are listed:

Line 3; "so the aim of 6 this study is to investigate" should change to "so the aim of 6 this study was to investigate". The correction was done

Line 8; “at the age of 4 to 11 years” should change to “with the age of 4 to 11 years” or “aged between 4 and 11 years”. The correction was done

Line 9; “Immediate and short-term use of KT” should change to “Immediate and short-term effects of KT”. The correction was done

Line 10; “by use” should change to “using” or “through the”. The correction was done

Line 10; “force plate” is an instrument, not a measure, this could be replaced by “COP oscillation” or etc. The correction was done

Line 14; “The results showed that in children with spastic CP immediate use of KT in QcM could not change” is vague. It might better change to “the immediate effects of KT on the QcM have not changed the COP displacement”. The correction was done

Introduction:

In Line 36; you said that “One of the most important problems in CP children is postural control problem”. What is meant by posture control? Do you equate posture control with COP oscillation? The author should give a full explanation of the previous background on COP fluctuations in children with spastic cerebral palsy.

The correction was done

Materials and Method:

You said that “This is a before and after clinical trial study without control group”. Moreover, this study was a non-blinded and non-randomized clinical trial study. So, the bias in this clinical study was very high and it was very difficult to control this bias. Please clarify.

The correction was done

About COP oscillation: you clarified to what you measured the COP. However, which of the measured parameters were examined? Was the Mean or standard deviation of COP oscillation assessed? The correction was done in the results

According to the equations you stated in the manuscript, the excursion of the center of pressure in the anteroposterior direction and the excursion of the center of pressure in the mediolateral direction were assessed. Maybe it was better to evaluate the velocity and the path length in these directions.

Because of the financial problem, we could not evaluate the velocity in these directions

Results:

“In this study, seventeen children with hemiplegia and ten children with diplegia participated” however, in the method section you said that “In this study, 33 children with CP participated”. Which one is correct? 30 children with CP participated before exclusion criteria. The number of participants was corrected everywhere in the article

Please clarify the exact commercial information about “SPSS-16”. The correction was done

Reviewer 4:

Thank you for giving me the opportunity to review the manuscript " Immediate and Short-term Effect of Quadriceps Kinesio-taping on postural sway in Children with Spastic Cerebral Palsy: a before-after trial"

Abstract

The conclusion- needs to be rewritten. Results should not be repeated. The correction was done

Introduction

Almost all the concerns were addressed. Here are some suggestions for improvements...

- Add references to "A few studies evaluated the effects of KT in CP children, and the results are controversial". The reference was added

- In the last paragraph where the purpose of the study is stated, in line 54, the author's reasons for the need to further investigate "the immediate and short-term effects of KT" should be summarized in one to two lines.

Only in the two-line of the last paragraph is the aim of this study.

Methods

Well-written methods!

Results

Page 6 lines 151 - unclear. What is meant by: “In this study, seventeen children with hemiplegia and ten children with diplegia participated” when you apparently had 30 participants (page 3 line 60)? What was the actual number of participants?

30 children with CP participated but three of them were excluded due to lack of cooperation of children (in the abstract 27 children correct to 27 (30 before exclusion criteria))

Conclusion

The discussion seems rather logical and well written.

_____

Associate Editor's Comments:

Associate Editor 1:

Dear authors

thank you for submitting the manuscript to MEJRH.

Please review and correct the following:

- The ethical code should be mentioned. The correction was done

_ Edit the manuscript by native English editor.

According to the reviewers' comments, your article needs to revise majorly.

3 Revision 2

5 comments · 21 May 2021 – 31 May 2021

Rasool Bagheri Reviewer — ACCEPT — 21 May 2021

It is accepted.

Referee 4 Reviewer — ACCEPT — 22 May 2021

Thank you for all of these corrections and for the organized way that you highlighted our changes! Good job!

Referee 3 Reviewer — MAJOR REVISION — 29 May 2021

The discussion and the results of the article need to be corrected.
Inclusion criteria need to be modified.
Use the same method for naming different stages of evaluation.

Associate Editor — MINOR REVISION — 30 May 2021

Dear authors
The manuscript still needs to be revised.

Editor-in-Chief — MINOR REVISION — 31 May 2021

Dear Authors
According to the reviewers' and associate editor's comments, your article needs minor revision. Please respond to the reviewers' comments and submit the required files.

4

Revision 3

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

The authors did not provide a point-by-point response to the reviewers' comments in this round.

4 Revision 3

1 comment · 3 Jul 2021

Editor-in-Chief

ACCEPT 3 Jul 2021

Dear Authors
We are pleased to inform you that your article is accepted for publication in the MEJRHS. We hope to receive other qualified articles from your group.