# PEER REVIEW HISTORY

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#### ARTICLE DETAILS

TITLE (PROVISIONAL)	Balance and mobility training at home using Wii Fit in children with
	cerebral palsy: a feasibility study
AUTHORS	Chiu, HC; Ada, Louise; Lee, Shin-Da

#### **VERSION 1 – REVIEW**

REVIEWER	L.D.Jelsma Clinical and Developmental Neuropsychology, University of Groningen, Grote Kruisstraat 2-1, 9712 TS Groningen, The Netherlands
REVIEW RETURNED	23-Oct-2017

# **GENERAL COMMENTS** It is an interesting study with an impressive number of participants. There is a need in our field for this type of studies and more knowledge is required of the effects of interactive video gaming in the use of a supportive tool in rehabilitation. However, there are some major concerns on the study protocol and design, which are weakening the evidence. A design with measuring development over time or after regular physiotherapy in comparison with the change after Wii fit training only would have given more insight in the results and the variables that can account for the change in performance after Wii fit training. Therefore the authors need to present the results carefully within this article, since they can only partially link the improvements to the Wii fit training. There is no control group included, no change over time was studied and regular physiotherapy continued during the Wii fit training period for most of the children. P3 line 17 (abstract)-major concern Please be careful that readers may draw wrong conclusions. The intervention was not only the Wii fit training, but for 16 children also regular physiotherapy. Please include this in the conclusion of the abstract, since the abstracts are the most read parts of articles. And it may be an effective and highly motivating but still additional tool for rehabilitation/physiotherapy, so far. P3 line 37 The following remark is incorrect: "Change in balance was not statistically significant". This was due to the inability to perform the requested task by most of the children with CP. That is a different reason than the change in performance was not statistically significant. You might even doubt the value of the statistical test on unreliable outcomes. You may consider presenting the outcomes as descriptives.

#### P6 line 21-23

"Both studies reported little or no effect on balance, measured as postural sway. Perhaps this is because postural sway does not reflect everyday mobility"

What do you mean specifically with postural sway? How was it measured? In a static balance task postural sway is always minor present, and too much can be a sign of poor balance. But in relation with a Wii Fit task you need aimed postural sway or weight shift to steer the avatar. It also depends on where the postural sway is measured (as Centre of Pressure displacements or as kinematic outcomes of head/shoulders/trunk/hips/ancles). And please rewrite the last sentence since postural sway is used in everyday mobility, while excessive postural sway will result in less fluent or unstable movements.

# P6 line 43-major concern

Research question 2 is aiming at transfer of learned tasks towards tasks with less similar elements, as strength and participation. There is no introduction of the phenomenon of motor learning and skills acquired in the VR environment and transfer to real world contexts. Since it is an important research question it would need more attention and hypothesizing in the introduction.

#### P7 line 14

Please include the written informed assent of the children

#### P7 line 43

"Participants undertook balance and mobility at home using Wii Fit for 20 minutes a session..."

It is unclear what you mean by "undertook balance and mobility at home". Do you refer to the Wii Fit training?

And can you also include whether each game was allowed to play once or twice per session? Within twenty minutes four games were played?

# P7 line 57

Can you add what type of hand support was used by some of the children (how many specifically?)

# P8 line 30 Major concern

This research would have been of importantly more value when usual therapy would have been stopped for the training period. How can you determine whether the Wii Fit or the usual therapy counted for the improvements in strength and participation (walking speed and walking distance)?

# P9 line 5

Minor error: 'Using Wii Fit as challenging for my child' adapt to 'is challenging....'

#### P9 line 39

One legged stance test: were both legs tested?

# P9 line 30

Do only caregivers fill in this test, or are the children involved in answering the questions? Please, this information can be of great value.

# Figure 1 P23 line 41

Change pre intervention into post intervention

#### Table 2 P21 line 3

-Where do we find the 'mean (SD) difference within times'? This also accounts for Table 3. Don't forget to mention in the heading that you calculated and presented the percentage of improvement as well. Why do you find a difference of 2 in perfect 10 when you improve from 11 ->14?

-And some games present large SD's: how do you explain this? Apparently within the group large differences were found in change in Wii fit performance. Was it specific for one of the subgroups (GMFCS I versus II or versus III?), or the group with- versus without support of standing, or could there have been another reason? -At the super hula hoop you present a score of 35 and a SD of 53 and 165 and a SD of 345, which is highly unlikely. This is probably a typing error? If not, explain why this SD is this size?

#### P11 line 27

Please, don't start a sentence with a number, write out in full; Forty-four children.....

#### P11 line 47

You state the game performance changes from poor to moderate. But if you look at the Wii performance as Nintendo regards them they use a four-star system ranging from beginners level (one star) to expert level (four stars), depending on the game. If you decide to rewrite the scoring system into poor, moderate, good or excellent, for example, please mention this in your methods section.

#### P11 line 52

You are reporting that two games were too difficult to play. What happened with the scores, since they are included in the results? How come you did find an improvement?

# P12 line 41

Why do you include a test for testing balance when at premeasurement it is clear that this test is not a reliable test for balance in this category of participants? Usually a research protocol is tested on some of the children to make sure that the correct tests are included. Theoretically, you could have known that standing on one leg is too difficult for this category of children. There are other motor test items more suitable for children with CP. But it is appreciated that you honestly report this. You may consider reporting it on an individual level (nr of children scoring 1 sec; nr of children scoring 2 sec; number of children scoring >2 sec (be specific) per baseline and post intervention measurement).

# P13 line 43

"....they were not able to perform all the games and did not gain as much from

the training as the less disabled children". This is not presented in the results, please add information of the performance per subgroup.

#### P14 line 43

Don't start a sentence with a number: "40% had non-injurious falls during training..." Rather use Forty percent.....

#### P15 line 36

"There were clinically significant improvements in all measures of lower limb strength and in all three measures of walking, suggesting

that Wii Fit training in the home has the potential to be beneficial in children with cerebral palsy"
Please rewrite this result. The intervention was combined with
regular physio (n=16), there was no control group, nor was change over time studied. For this reason you have to be very careful with the improvements linked to the Wii fit training only.
P16 line 21
Please include randomized controlled trial.

REVIEWER	Akkradate Siriphorn
	Department of Physical Therapy,
	Faculty of Allied Health Sciences,
	Chulalongkorn University, Bangkok, Thailand
REVIEW RETURNED	01-Nov-2017

REVIEW RETURNED	01-Nov-2017
GENERAL COMMENTS	Bmjopen-2017-019624: Balance and mobility training at home using Wii Fit in children with cerebral palsy: a feasibility study
	1. Page 10 line 45: Did you check the distribution of data before using the parametric test?
	2. Page 13 line 25: "Wii Fit in children with cerebral palsy is feasible and safe" From the results, it seem to be some safety issue since (55% reported muscle soreness, 50% reported fatigue, 40% reported non-injurious falls).
	3. Page 15 line 5: You speak of only 5 participants could perform the one-legged stance test. How come the mean of this test? Is it come from 5 participants or 20 participant? I would also suggest to report the number of participant in each test.
	4. Page 15 line 36: Please give some more information (e.g.,minimal clinically important differences (MCID)) before stating that there were clinically significant improvement.
	5. Page 15, 16: Please add limitation of the study design that lack of control group.
	6. Page 21, 22: Please report the statistical significance of those parameter in table 2 and 3.
	7. Page 21 line 11: The difference between times is week 8 - week 0 which in this case would be 14-11 = 3.
	8. Page 21 line 35: The difference would be 165-35 = 130.
	9. Page 21 line 35: The difference would be 165-35 = 130.
	10. Page 22 line 17: The difference would be 6.0-3.7 = 2.3.
	11. Page 22 line 30: The difference would be 346-319 = 27.
	12. Page 23 line 41: "Pre-intervention measures" it would be "post-intervention measures"

13. Please delete the page 24-34 (It seem to be the first draft of the manuscript).

# **VERSION 1 – AUTHOR RESPONSE**

# **Editorial Request:**

- Please revise the 'Strengths and Limitations' section on page 4. This section should not be a summary of the study and its findings. As a reminder, it should contain up to five short bullet points, no longer than one sentence each, that relate specifically to the methods/ design of the study reported (see: http://bmjopen.bmj.com/site/about/guidelines.xhtml#articletypes).

We have revised this section so that it is not a summary of the finding.

Reviewers' Comments to Author:

Reviewer: 1

Reviewer Name: L.D.Jelsma

Institution and Country: Clinical and Developmental Neuropsychology, University of Groningen, Grote

Kruisstraat 2-1, 9712 TS Groningen, The Netherlands

Competing Interests: None declared

It is an interesting study with an impressive number of participants. There is a need in our field for this type of studies and more knowledge is required of the effects of interactive video gaming in the use of a supportive tool in rehabilitation. However, there are some major concerns on the study protocol and design, which are weakening the evidence. A design with measuring development over time or after regular physiotherapy in comparison with the change after Wii fit training only would have given more insight in the results and the variables that can account for the change in performance after Wii fit training. Therefore the authors need to present the results carefully within this article, since they can only partially link the improvements to the Wii fit training. There is no control group included, no change over time was studied and regular physiotherapy continued during the Wii fit training period for most of the children.

P3 line 17 (abstract)-major concern

Please be careful that readers may draw wrong conclusions. The intervention was not only the Wii fit training, but for 16 children also regular physiotherapy. Please include this in the conclusion of the abstract, since the abstracts are the most read parts of articles. And it may be an effective and highly motivating but still additional tool for rehabilitation/physiotherapy, so far.

We have added "in addition to usual care" in the sentence.

The following remark is incorrect: "Change in balance was not statistically significant". This was due to the inability to perform the requested task by most of the children with CP. That is a different reason than the change in performance was not statistically significant. You might even doubt the value of the statistical test on unreliable outcomes. You may consider presenting the outcomes as descriptive.

We have decided to omit the analysis of balance, in the line with the comment. We have discussed the value of this outcome measure in the discussion.

#### P6 line 21-23

"Both studies reported little or no effect on balance, measured as postural sway. Perhaps this is because postural sway does not reflect everyday mobility"

What do you mean specifically with postural sway? How was it measured? In a static balance task postural sway is always minor present, and too much can be a sign of poor balance. But in relation with a Wii Fit task you need aimed postural sway or weight shift to steer the avatar. It also depends on where the postural sway is measured (as Centre of Pressure displacements or as kinematic outcomes of head/shoulders/etc). And please rewrite the last sentence since postural sway is used in everyday mobility, while excessive postural sway will result in less fluent or unstable movements.

Postural sway was measured statically as centre of pressure. We have deleted the last sentence, and rewritten the previous sentence as: "Both studies reported little or no effect on static postural sway, measured as centre of pressure."

# P6 line 43-major concern

Research question 2 is aiming at transfer of learned tasks towards tasks with less similar elements, as strength and participation. There is no introduction of the phenomenon of motor learning and skills acquired in the VR environment and transfer to real world contexts. Since it is an important research question it would need more attention and hypothesizing in the introduction.

We did not intend Q2 as you have interpreted it, therefore we have rewritten it as: "Can 8 weeks of Wii Fit training improve strength, balance, walking and participation?"

# P7 line 14

Please include the written informed assent of the children

We have added "participants" in the sentence. Now it reads as "...informed consent was obtained from all participants and parents/or guardian...."

# P7 line 43

"Participants undertook balance and mobility at home using Wii Fit for 20 minutes a session,.."

It is unclear what you mean by "undertook balance and mobility at home". Do you refer to the Wii Fit training?

And can you also include whether each game was allowed to play once or twice per session? Within twenty minutes four games were played?

We have rewritten the sentence as: "Participants undertook balance and mobility training at home using Wii Fit for 20 minutes a session,.." Two sentences later, we explain that each game was played for 5 min per session. How many times it was played therefore depended on the ability of the child.

P7 line 57

Can you add what type of hand support was used by some of the children (how many specifically?)

We have provided the type of hand support in the method and reported number of participants needed to use hand support in the result.

P8 line 30 Major concern

This research would have been of importantly more value when usual therapy would have been stopped for the training period. How can you determine whether the Wii Fit or the usual therapy counted for the improvements in strength and participation (walking speed and walking distance)?

Given that this was a feasibility study, we felt it was not reasonable to restrict usual care. However, given the chronic nature of the participants and the small amount of physiotherapy delivered (1 hr/wk now outlined in Table 1), it is unlikely that usual care alone would have resulted in the improvements observed. Now that we have shown the potential for improvement, the next study will be a randomized trial where usual care will be controlled for since both groups may receive it.

P9 line 5

Minor error: 'Using Wii Fit as challenging for my child' adapt to 'is challenging....'

Done

P9 line 39

One legged stance test: were both legs tested?

We measured the most affected leg. Now, we have added this information in the text.

P10 line 30

Do only caregivers fill in this test, or are the children involved in answering the questions? Please, this information can be of great value.

We have stated that "caregivers indicate....", so it is clear to indicate that only caregivers fill in Assistance to Participation Scale.

Figure 1 P23 line 41

Change pre intervention into post intervention

Done

Table 2 P21 line 3

-Where do we find the 'mean (SD) difference within times'? This also accounts for Table 3. Don't forget to mention in the heading that you calculated and presented the percentage of improvement as well.

We have corrected to "Mean (SD) of xxxx at each time, mean (95% CI) difference and percentage improvement between times (n=20)." in table 2 and table 3.

-Why do you find a difference of 2 in perfect 10 when you improve from 11 ->14?

We have checked all the results. Any discrepancy is due to rounding.

-And some games present large SD's: how do you explain this? Apparently within the group large differences were found in change in Wii fit performance. Was it specific for one of the subgroups (GMFCS I versus II or versus III?), or the group with- versus without support of standing, or could there have been another reason?

We cannot know why some participants improved markedly and some not at all since we do not have enough sample size to do subgroup analyses.

-At the super hula hoop you present a score of 35 and a SD of 53 and 165 and a SD of 345, which is highly unlikely. This is probably a typing error? If not, explain why this SD is this size?

This is not typing error. The large SD of the change over time is because some participants improved a lot, but some stayed the same.

P11 line 27

Please, don't start a sentence with a number, write out in full; Forty-four children.....

We have changed number to words in the line with the comment.

P11 line 47

You state the game performance changes from poor to moderate. But if you look at the Wii performance as Nintendo regards them they use a four-star system ranging from beginners level (one star) to expert level (four stars), depending on the game. If you decide to rewrite the scoring system into poor, moderate, good or excellent, for example, please mention this in your methods section.

We cannot use the Nintendo descriptors because they do not give a definition of them in terms of game performance. We have removed poor/moderate/good improvement, and just concentrated on the % improvement.

#### P11 line 52

You are reporting that two games were too difficult to play. What happened with the scores, since they are included in the results? How come you did find an improvement?

This has been revised to one game (super hula hoop) having a large variability in terms of improvement across participants.

#### P12 line 41

Why do you include a test for testing balance when at pre-measurement it is clear that this test is not a reliable test for balance in this category of participants? Usually a research protocol is tested on some of the children to make sure that the correct tests are included. Theoretically, you could have known that standing on one leg is too difficult for this category of children. There are other motor test items more suitable for children with CP. But it is appreciated that you honestly report this. You may consider reporting it on an individual level (nr of children scoring 1 sec; nr of children scoring 2 sec; number of children scoring >2 sec (be specific) per baseline and post intervention measurement).

The participants were recruited sequentially, therefore, we did not know until towards the end that this measure had a floor effect. Part of the purpose of a feasibility study is to test the protocol, and we have now removed the analysis of this measure from the paper.

# P13 line 43

"....they were not able to perform all the games and did not gain as much from the training as the less disabled children". This is not presented in the results, please add information of the performance per subgroup.

There are three words missing from this sentence. Now it reads as follow: "...they were not able to perform all the games without hand support....". We do not have enough participants to perform a formal subgroup analysis, so have deleted the part of the sentence: "and did not gain as much from the training as the less disabled children".

# P14 line 43

Don't start a sentence with a number: "40% had non-injurious falls during training..." Rather use Forty percent.....

We have changed number to forty percent in the line with the comment.

P15 line 36

"There were clinically significant improvements in all measures of lower limb strength and in all three measures of walking, suggesting that Wii Fit training in the home has the potential to be beneficial in children with cerebral palsy"

Please rewrite this result. The intervention was combined with regular physio (n=16), there was no control group, nor was change over time studied. For this reason you have to be very careful with the improvements linked to the Wii fit training only.

We did study change over time – over 8 weeks. We feel we have been careful about the fact that there was no control group by saying that this training "has the potential" to be beneficial and go on to say that it now warrants testing with a control group.

P16 line 21

Please include randomized controlled trial.

Done

Reviewer: 2

Reviewer Name: Akkradate Siriphorn

Institution and Country: Department of Physical Therapy, Faculty of Allied Health Sciences,

Chulalongkorn University, Bangkok, Thailand

Competing Interests: None declared

1. Page 10 line 45: Did you check the distribution of data before using the parametric test?

We have added this information in the text.

2. Page 13 line 25: "Wii Fit in children with cerebral palsy is feasible and safe..." From the results, it seem to be some safety issue since (55% reported muscle soreness, 50% reported fatigue, 40% reported non-injurious falls).

In order to clarify safety, we have provided more information in the result section, in particular, that most reports of soreness, fatigue and falls were occasional. Also, no soreness, fatigue, or fall resulted in injury or stopped training. Therefore, we termed safety as 'acceptable'.

3. Page 15 line 5: You speak of only 5 participants could perform the one-legged stance test. How come the mean of this test? Is it come from 5 participants or 20 participant? I would also suggest to report the number of participant in each test.

We did not mean that they actually did not do the test, but rather that 2 s reflects that they could not do it properly. Even though we knew the data was skewed, we went ahead and presented the parametric results. However, on reflection, we think it would be better to not present these results, and have removed them.

4. Page 15 line 36: Please give some more information (e.g.,minimal clinically important differences (MCID)) before stating that there were clinically significant improvement.

We have deleted the word 'clinically'. We conclude that "The amount of improvement suggests that further investigation is warranted . . . . "

5. Page 15, 16: Please add limitation of the study design that lack of control group.

The design is Phase I feasibility study which is not necessarily supposed to have a control group. We conclude that a randomised trial with a control group is now warranted.

6. Page 21, 22: Please report the statistical significance of those parameter in table 2 and 3.

Our understanding is that it is best practice to report mean difference (95% CI) in clinical research. Furthermore, the p value is embedded in the CI. Therefore we have not included the p value, but will do so if directed by the editor.

7. Page 21 line 11: The difference between times is week 8 - week 0 which in this case would be 14-11 = 3.

We have checked all the results. Any discrepancy is due to rounding.

9. Page 21 line 35: The difference would be 160-35 = 125.

We have checked all the results. Any discrepancy is due to rounding.

10. Page 22 line 17: The difference would be 6.0-3.7 = 2.3.

We have checked all the results. Any discrepancy is due to rounding.

11. Page 22 line 30: The difference would be 346-319 = 27.

We have checked all the results. Any discrepancy is due to rounding.

12. Page 23 line 41: "Pre-intervention measures" it would be "post-intervention measures"

Done

13. Please delete the page 24-34 (It seem to be the first draft of the manuscript).

Done

# **VERSION 2 – REVIEW**

REVIEWER	Akkradate Siriphorn Chulalongkorn University, Thailand
REVIEW RETURNED	01-Dec-2017
GENERAL COMMENTS	Please provide some additional details about the statistical analysis that you used in this study e.g., distribution test and non-
	parametric test.  2. "Super hula hoop (higher score) = 126 (-29 to 280) ↑ 360%" and
	ASSISTANCE TO PARTICIPATION SCALE Score = 1.4 (0.0 to 2.8). If a statistic is significantly different from 0 at the 0.05 level, then the
	95% confidence interval will not contain 0. Please do note state the improvement in these parameters.

REVIEWER	Dr. L.D. Jelsma
	University of Groniingen, the Netherlands
REVIEW RETURNED	21-Dec-2017

GENERAL COMMENTS	Minor and major revisions:
	Responses were done in a correct and considerate way. There are only a few concerns left which I consider flawing the results of this study. Which is a pity, since I believe it is a study worthwhile to publish. I suppose it will be easy to adjust.
	Page 7
	You changed the sentence into:
	"Participants undertook balance and mobility training at home using Wii Fit for 20 minutes a session, three times a week over 8 weeks, ie, 24 sessions."
	However, it is not balance training nor mobility training, it is simply a Wii Fit balance training. Unless you refer to the regular therapy AND the Wii Fit balance training
	Page 10
	"Descriptive statistics were calculated for all variables at both times (Week 0 and 8)." Please, include at what percentage you considered a score poor, moderate, good? Since you use the classifications in

your table 2.

Like the scores ≤25%; >25% and <75%; >75%??

Major revision:

Page 11 and Page 22 (table 2)

"Table 2. Mean (SD) of performance of intervention at each time, mean (95% CI) difference and percentage improvement between times (n=20)."

"In terms of performance over time, the scores improved by 18-360% (Table 2). However, the improvement in one game (Super hula hoop) had wide Cls, suggesting a large variability in improvement."

The percentage of improvement that you give is change/first score\*100%. But that is not the percentage of change. If you look at the score at week 0 of perfect 10, the score is 11, which is 55% of the total amount of the score (20). At week 8; 14 out of 20=70%, so you will find a 15% improvement, isn't it? For the balance bubble the first score is 56% of the highest score. At week 8 the children score 900/1200\*100%=75%. So the improvement is 19%. Since you don't report the highest score possible for the super hula hoop how can you calculate the percentage of improvement. And how can you identify how they score (35 points out of ?) In other words: how do you know 35 points is poor??

Page 23

"Table 3. Mean (SD) of performance of intervention at each time, mean (95% CI) difference and percentage improvement between times (n=20)."

I don't think you gave the percentage of improvement, since the change given is in Nm, m, m/s and scale scores.

Figure 1

Is missing.

# **VERSION 2 – AUTHOR RESPONSE**

Reviewer: 1

Reviewer Name: Dr. L.D. Jelsma

Institution and Country: University of Groniingen, the Netherlands

Competing Interests: None declared

# Page 7

You changed the sentence into: "Participants undertook balance and mobility training at home using Wii Fit for 20 minutes a session, three times a week over 8 weeks, ie, 24 sessions."

However, it is not balance training nor mobility training, it is simply a Wii Fit balance training. Unless you refer to the regular therapy AND the Wii Fit balance training

We have changed the sentence to "Participants undertook Wii Fit training at home for 20 minutes a session, three times a week over 8 weeks, ie, 24 sessions."

# Page 10

"Descriptive statistics were calculated for all variables at both times (Week 0 and 8)." Please, include at what percentage you considered a score poor, moderate, good? Since you use the classifications in your table 2.

Like the scores ≤25%; >25% and <75%; >75%??

We cannot define the level of performance based on percentage of maximum score because 6 of 8 games have no highest score. These depend on participants' ability – the better they perform, the higher the score. So, we now have removed "poor, moderate, and good" from Table 2.

Major revision:

Page 11 and Page 22 (table 2)

"Table 2. Mean (SD) of performance of intervention at each time, mean (95% CI) difference and percentage improvement between times (n=20)."

"In terms of performance over time, the scores improved by 18-360% (Table 2). However, the improvement in one game (Super hula hoop) had wide CIs, suggesting a large variability in improvement."

The percentage of improvement that you give is change/first score\*100%. But that is not the percentage of change. If you look at the score at week 0 of perfect 10, the score is 11, which is 55% of the total amount of the score (20). At week 8; 14 out of 20=70%, so you will find a 15% improvement, isn't it? For the balance bubble the first score is 56% of the highest score. At week 8 the children score 900/1200\*100%=75%. So the improvement is 19%. Since you don't report the highest score possible for the super hula hoop how can you calculate the percentage of improvement. And how can you identify how they score (35 points out of ?) In other words: how do you know 35 points is poor??

The percentage (%) improvement in Table 2 was calculated as mean difference between times/baseline. This has now been added in a footnote to Table 2.

Page 23

"Table 3. Mean (SD) of performance of intervention at each time, mean (95% CI) difference and percentage improvement between times (n=20)."

I don't think you gave the percentage of improvement, since the change given is in Nm, m, m/s and scale scores.

This is our mistake. Now, we have changed the heading to:

"Table 3. Mean (SD) of clinical outcomes at each time and mean (95% CI) difference between times (n=20)."

# Figure 1

Is missing.

Figure 1 is present – it was required to be submitted as a separate document.

Reviewer: 2

Reviewer Name: Akkradate Siriphorn

Institution and Country: Chulalongkorn University, Thailand

Competing Interests: None declared

1. Please provide some additional details about the statistical analysis that you used in this study e.g., distribution test and non-parametric test.

We have stated that analyses were "using paired t-tests if normally distributed" and added the reference in the text. We did not use non-parametric statistics.

2. "Super hula hoop (higher score) = 126 (-29 to 280) ↑ 360%" and ASSISTANCE TO PARTICIPATION SCALE Score = 1.4 (0.0 to 2.8). If a statistic is significantly different from 0 at the 0.05 level, then the 95% confidence interval will not contain 0. Please do not state the improvement in these parameters.

We have not stated the % improvement in the Assistance to Participation Scale score, and we have removed the % improvement for Supa Hula hoop.

Open access Correction

# Correction: Balance and mobility training at home using Wii Fit in children with cerebral palsy: a feasibility study

Chiu H, Ada L, Lee S. Balance and mobility training at home using *Wii Fit* in children with cerebral palsy: a feasibility study *BMJ Open* 2018;8:e019624. doi: 10.1136/bmjopen-2017-019624.

This article was previously published with some errors in the main text.

In Table 2, j in 'Ski jump' should be capital 'J'.

In Table 3, m/s in '6 min Walk Test (m/s)' should only be written as 'm'.

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BMJ Open 2018;8:e019624corr1. doi:10.1136/bmjopen-2017-019624corr1



