

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Barriers and facilitators to physical activity among children, adolescents, and young adults with cystic fibrosis: A systematic review and thematic synthesis of qualitative of research
AUTHORS	Denford, Sarah; van Beurden, Samantha; O'Halloran, Paul; Williams, Craig Anthony

VERSION 1 – REVIEW

REVIEWER	Dr Jacqueline Lavallée University of Manchester, UK
REVIEW RETURNED	13-Nov-2019

GENERAL COMMENTS	<p>Thank you for submitting this systematic review and meta-synthesis. I enjoyed reading this review as it is an important area to research and review existing literature. You have detailed the complexities involved in CF and PA. I have provided the comments below to assist with improving this review.</p> <p>Abstract Page 4, line 21: please can you rephrase electronic bibliographies to be more specific about what you mean. For example did you search the six databases systematically?</p> <p>Introduction -This is a good and clear introduction, thank you. -Page 8, line 59: there is a typo “active”, this should be activity.</p> <p>Methods Search strategy -Page 9, line 15: please state here that you searched six databases. - Page 9, lines 15 and 25: please remove “backward searches” (line 15) and “forward searching” (line 25) as these are not necessary terms. -Page 9, line 33, please could you explain your rationale for only having 10% of the records independently reviewed by a second author. When conducting systematic reviews, all records should be independently reviewed by at least two reviewers. -Please include the kappa score to demonstrate how well the reviewers agreed in terms of eligibility and risk of bias. -Page 9, lines 36-43: “Conflicts at this stage were resolved via discussion and potentially relevant articles were retrieved in full and all were assessed independently by both reviewers against the inclusion criteria and quality assessment (as below).” Please break this sentence up as it is difficult to read.</p>
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	<p>-Page 10, exclusion criteria, line 38: you have abbreviated physical activity but have not done this beforehand, please can you be consistent either with PA or physical activity.</p> <p>-Page 10, data extraction: were data extracted independently? How did you resolve any conflicts?</p> <p>-Page 12, strategy for data synthesis: please can you state whether you synthesised the actual data (i.e. quotes) separately to the results and discussion written by the authors.</p> <p>-Please add a statement about your own reflexivity throughout the process.</p> <p>Results Clear results with contrasting views presented.</p> <p>I do have some questions about your results which I thought may have been answered in the discussion but they were not.</p> <p>-Were there any differences in the findings from the studies based on the country the studies were conducted in?</p> <p>-Were there differences in the findings depending on the participants' age? The age range is big and I wondered whether there could be different influencing factors based on age (e.g., a 12 year old compared to a 24 year old).</p> <p>-How did you manage the data from the studies that employed interpretive phenomenology? Interpretive phenomenology data analysis methods are different to thematic analysis methods and it is important that you recognise this in your data synthesis. This point also relates to my point above regarding how you synthesised the data – were quotations synthesised separately to the narratives within the results and discussion sections? Otherwise you have synthesised an interpretation of the data rather than the original data. This just needs to be stated clearly.</p> <p>Discussion Page 23, Line 12: you have spelt synthesise the American way and have not done this previously. Please be consistent with your spelling.</p> <p>Page 25, lines 3-6: please be clear about which 'concept' you are referring to. I think you are referring to perceptions of normality but please be explicit about this.</p> <p>Page 27, lines 6-8 please can you check that there is not a typo here as you have said young people twice.</p> <p>Page 27, line 38: please change "this data" to "these data" – data are plural.</p> <p>The review authors discuss Self-Determination Theory which is very useful but I wonder whether the reviewers may want to consider their findings alongside the COM-B model as the findings suggest that individual's knowledge (i.e. psychological capability) of PA and their opportunities for PA are also influential factors. Thinking about the findings in relation to the COM-B model may be helpful when discussing the development of future interventions.</p> <p>Other: -Page 37: there is a bracket missing after n = 31 in the full text box. -Page 50: the PRISMA checklist has not been completed with the page numbers.</p>
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REVIEWER	João Martins Laboratório de Pedagogia, Faculdade de Motricidade Humana e UIDEF, Instituto de Educação, Universidade de Lisboa, Lisboa, Portugal
REVIEW RETURNED	15-Nov-2019

GENERAL COMMENTS	<p>Dear authors,</p> <p>Thank you for the opportunity to revise the paper. Congratulations for the work developed. This paper sought to review qualitative papers focused on young people with CF perspectives about the barriers and facilitators of physical activity. The paper is needed and, overall, well conducted. However, in my opinion, before being published some more work needs to be done concerning: 1) Lack of theoretical framework; 2) Need to take into account previous evidence stemming from literature about the correlates/determinants of physical activity, and mainly from those existing reviews of qualitative studies that have considered youth voice about the facilitators and barriers of PA; 3) highlight the focus on young people voices; 4) clarify if the results/perspectives may be different based on age/sex/level of physical activity. Some major and minor comments can be consulted below.</p> <p>>> Major comments to the authors:</p> <ol style="list-style-type: none"> 1. The manuscript could be further improve. The use of a theoretical framework to contextualize, interpret and discuss the findings might be used. Consider for example the socio-ecological model of health behaviour, as for example: Sallis, J., & Owen, N. (2015). Ecological models of health behavior. In K. Glanz, B. Rimer, & 724 K. Viswanath (Eds.), Health behavior. Theory, research and practice (5th ed., pp. 43-725 64). CA, USA: Joessey-Bass. 2. A large body of literature exists concerning the correlates and determinants of physical activity (e.g. Bauman et al., 2012; Condello et al., 2017; Jaeschke et al., 2017). It would be interesting to explore and discuss how these findings relate to the ones found in this study. Furthermore, some other studies have focused on the facilitators and barriers of PA from young peoples perspectives (e.g. Allender et al., 2006; Martins et al., 2015; Moore, 2010; Rees, 2001). This is not mentioned and seems also important to be taken into consideration when contextualizing the study in the introduction and in the discussion section. For example, some factors seem to be similar across studies with healthy and unhealthy youth (e.g. fun / motivation / perceived competence; social support from family and friends). Other barriers and facilitators seem specific to the health status of young people (e.g. normality, etc...). 3. In general, the introduction warrants further consideration as whilst it discusses pertinent work, it perhaps fails to discuss some of the qualitative works that are relevant for the present study. Moreover, the introduction could be improved to better set the importance of focusing on young people's voices. Why is it important to focus on young people's voices? This is another critical point that should be addressed by the authors. 4. The paper is focused on children (aged ≥ 4 years), adolescents and young adults (inclusion criteria: aged no more than 24 years
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old). Previous qualitative studies tend to focus on children, adolescents or adults separately (or at least stratified the analyses or data presentation). How did the identified psychological or environmental facilitators/barriers of physical activity varied across children aged 4-9 years, for adolescents aged 16-17 years, or for young adults aged 18-24 years? Were there any differences in their perspectives? Are the presented results the same regardless of the age of the participants? How should professionals working with children and adolescents look into these findings? Are the recommendations the same for working with children and adolescents? What about the marked differences that tend to exist between boys and girls concerning the participation factors? It is my opinion that these issues might be better addressed throughout the paper (introduction, results, discussion) by the authors.

5. Only one study involved participants with more than 18 years of age (Street et al., 2014). In Street's (2014) study, it is not clear how many participants were aged 24 years or less. The participants' age varied between 18 and 46 years. So did the authors capture the voices only of those participants aged below 24 years or of all individuals regardless of their age? Based on what was previously said, the authors might consider focusing their analysis on the subgroups of children and of adolescents (i.e. the 7 studies, where participants were aged 4-17 years old). The perspectives of children and adolescents, as well as from boys and girls, should also be addressed in the discussion section.

6. Finally, when characterising the studies included in the review (table 1), I think that it is critical to understand what are the physical activity characteristics of the participants (their levels; active vs inactive, inactive now but were active during their childhood, ..., how physical activity was measured in the different studies...). Since we are talking about the perspectives of young people concerning the main facilitators and barriers of physical activity, which tend to be distinct (Allender et al. 2006; Martins et al., 2015), it seems to be important to characterize the participants and take this feature into account throughout the study.

>> Minor comments to the authors:

Title

7. Based on previous comments, and by taking into account the review characteristics consider including in the title the word "children". For example, children, adolescents and young adults would be more specific. Otherwise the study includes "young people" with 4 and 24 years old.

Abstract

8. Suggestion: Consider reallocating the expression "Results were synthesized using thematic approach" from the results into the final of the methods section.

9. Specification: In the conclusion specify/highlight some of the main facilitators and barriers stemming from this review, instead of major influences such as: physical, psychological, social and environmental influences.

Introduction

10. Page 7, Lines 9-19: needs to be supported by references.

	<p>11. Page 7, Line 46: since you have studies from different countries, consider reporting here the World Health Organization (2010) PA recommendations instead of the ones that are specific to the UK.</p> <p>12. Page 7, Lines 51-54: needs to be supported by references.</p> <p>Methods</p> <p>13. P12, Lines 6-21: please clarify the steps taken to increase rigor in the analysis of the data? Clarify if: diversity in perspective was explored; the analysis sought to rule out alternative explanations for findings. Furthermore, was data saturation reached across all themes? How many persons were involved in this phase of data synthesis? Clarify.</p> <p>Findings,</p> <p>14. P20, Lines 16-33: This is not very clear for me. Rephrase it, please. Moreover, the authors should provide further examples of young people voices concerning these statements made here.</p> <p>15. P21-22. The coping strategies are based on the studies 32 and 38 (mainly this 1st one). Were there any other studies that addressed the coping strategies? If yes include it here.</p> <p>Discussion</p> <p>16. Some themes were not discussed or could be further developed, namely: competing priorities; environmental influences.</p> <p>Conclusion</p> <p>17. Specify the numerous targets for future interventions. Is the use of them straightforward from researchers/practitioners? How do they might be adapted based on age, gender or socio-cultural contexts from the young people?</p> <p>Kind regards.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Dr Jacqueline Lavallée

Institution and Country: University of Manchester, UK Please state any competing interests or state 'None declared': None declared.

Please leave your comments for the authors below

Thank you for submitting this systematic review and meta-synthesis. I enjoyed reading this review as it is an important area to research and review existing literature. You have detailed the complexities involved in CF and PA. I have provided the comments below to assist with improving this review.

We would like to thank the reviewer for the comprehensive review and insightful comments.

Abstract

Page 4, line 21: please can you rephrase electronic bibliographies to be more specific about what you mean. For example did you search the six databases systematically?

Thank you for this comment. We now clarify that Six electronic databases were systematically searched up to August 2019.

Introduction

-This is a good and clear introduction, thank you.

-Page 8, line 59: there is a typo “active”, this should be activity.

Thank you for this positive review of the introduction. The typo on page 8 has been corrected.

Methods

Search strategy

-Page 9, line 15: please state here that you searched six databases.

- Page 9, lines 15 and 25: please remove “backward searches” (line 15) and “forward searching” (line 25) as these are not necessary terms.

Thank you, we now describe the databases (and dates) searched (ASSIA, CINAHL, EMBASE, MEDLINE, MEDLINE-in-process, PsycINFO) and have removed the terms “forward searching” and “backward searching” from the text.

-Page 9, line 33, please could you explain your rationale for only having 10% of the records independently reviewed by a second author. When conducting systematic reviews, all records should be independently reviewed by at least two reviewers.

Thank you for this comment. We agree that having a second reviewer screen titles and abstracts of all records is gold standard. However, after reviewing 10% of records with 100% agreement, it was decided that additional screening was not necessary. We have added text to justify this decision on page 10.

-Please include the kappa score to demonstrate how well the reviewers agreed in terms of eligibility and risk of bias.

Kappa scores for RoB are now presented in the methods section.

-Page 9, lines 36-43: “Conflicts at this stage were resolved via discussion and potentially relevant articles were retrieved in full and all were assessed independently by both reviewers against the inclusion criteria and quality assessment (as below).” Please break this sentence up as it is difficult to read.

Thank you, this sentence has now been modified as per the reviewer’s suggestion.

-Page 10, exclusion criteria, line 38: you have abbreviated physical activity but have not done this beforehand, please can you be consistent either with PA or physical activity.

Thank you for spotting this typo. We have now changed PA to physical activity.

-Page 10, data extraction: were data extracted independently? How did you resolve any conflicts?

Thank you for this comment. We have now clarified that data were extracted independently and conflicts were resolved via discussion.

-Page 12, strategy for data synthesis: please can you state whether you synthesised the actual data (i.e. quotes) separately to the results and discussion written by the authors.

Thank you for this comment. We now clarify that we analysed author’s interpretation of the data (i.e., we did not synthesise the data separately to the results and discussion written by the authors).

-Please add a statement about your own reflexivity throughout the process.

Thank you for this crucial point. We have now added a statement about our own reflexivity throughout the process in the discussion section.

Results

Clear results with contrasting views presented.

I do have some questions about your results which I thought may have been answered in the discussion but they were not.

-Were there any differences in the findings from the studies based on the country the studies were conducted in?

Thank you for raising this point. Our analysis revealed no differences in findings between studies conducted in different countries. We have now added a statement in the discussion to this effect.

-Were there differences in the findings depending on the participants' age? The age range is big and I wondered whether there could be different influencing factors based on age (e.g., a 12 year old compared to a 24 year old).

Thank you for this comment. The majority of the papers targeted participants between the ages of 10 and 17 years. Only one study included in the review included children as young as four years. However, the authors of this paper also recruited participants up to the ages of 16 years and did not refer to participant age in the analysis. In order to narrow the age range of participants, we have now excluded the one paper that targeted older participants (>18 years). Our analysis revealed no evidence of any differences in barriers and facilitators to physical activity among different age groups. We have now added a statement in the discussion to this effect.

-How did you manage the data from the studies that employed interpretive phenomenology? Interpretive phenomenology data analysis methods are different to thematic analysis methods and it is important that you recognise this in your data synthesis. This point also relates to my point above regarding how you synthesised the data – were quotations synthesised separately to the narratives within the results and discussion sections? Otherwise you have synthesised an interpretation of the data rather than the original data. This just needs to be stated clearly.

Thank you for raising this point. We have now clarified that we analyse the data as interpreted by the author.

Discussion

Page 23, Line 12: you have spelt synthesise the American way and have not done this previously. Please be consistent with your spelling.

Thank you for spotting this typo. This has now been corrected on page 23.

Page 25, lines 3-6: please be clear about which 'concept' you are referring to. I think you are referring to perceptions of normality but please be explicit about this.

Thank you, we have now clarified that we are referring to the concept of normality.

Page 27, lines 6-8 please can you check that there is not a typo here as you have said young people twice.

Thank you, the repetition of "young people" has been removed.

Page 27, line 38: please change "this data" to "these data" – data are plural.

Thank you, this typo has now been changed to "these data"

The review authors discuss Self-Determination Theory which is very useful but I wonder whether the reviewers may want to consider their findings alongside the COM-B model as the findings suggest that individual's knowledge (i.e. psychological capability) of PA and their opportunities for PA are also influential factors. Thinking about the findings in relation to the COM-B model may be helpful when discussing the development of future interventions.

Thank you very much for this suggestion. We agree that consideration of the COM-B model would be a useful addition to the manuscript. However, as suggested by reviewer 2, we feel that the socio-ecological model would be a better fit with our data. We have therefore utilised this model to contextualise, interpret and discuss the findings of our paper. We have now added text in accordance with this recommendation.

Other:

-Page 37: there is a bracket missing after n = 31 in the full text box.

Thank you – this typo has been corrected.

-Page 50: the PRISMA checklist has not been completed with the page numbers.

We apologise for this oversight. The correct PRISMA checklist has now been uploaded.

Reviewer: 2

Dear authors,

Thank you for the opportunity to revise the paper. Congratulations for the work developed. This paper sought to review qualitative papers focused on young people with CF perspectives about the barriers and facilitators of physical activity. The paper is needed and, overall, well conducted. However, in my opinion, before being published some more work needs to be done concerning: 1) Lack of theoretical framework; 2) Need to take into account previous evidence stemming from literature about the correlates/determinants of physical activity, and mainly from those existing reviews of qualitative studies that have considered youth voice about the facilitators and barriers of PA; 3) highlight the focus on young people voices; 4) clarify if the results/perspectives may be different based on age/sex/level of physical activity. Some major and minor comments can be consulted below.

Thank you very much for your detailed and thorough review of our work. We very much appreciate the time you have taken to provide very helpful feedback, and we feel that our manuscript is considerably stronger as a result.

>> Major comments to the authors:

The manuscript could be further improve. The use of a theoretical framework to contextualize, interpret and discuss the findings might be used. Consider for example the socio-ecological model of health behaviour, as for example: Sallis, J., & Owen, N. (2015). Ecological models of health behavior. In K. Glanz, B. Rimer, & 724 K. Viswanath (Eds.), Health behavior. Theory, research and practice (5th ed., pp. 43-725 64). CA, USA: Joessey-Bass.

Thank you very much for this comment. We agree that that use of the socio-ecological model to contextualise, interpret and discuss the findings would be useful. We have now added text in accordance with this recommendation.

2. A large body of literature exists concerning the correlates and determinants of physical activity (e.g. Bauman et al., 2012; Condello et al., 2017; Jaeschke et al., 2017). It would be interesting to explore and discuss how these findings relate to the ones found in this study. Furthermore, some other studies have focused on the facilitators and barriers of PA from young peoples perspectives (e.g. Allender et al., 2006; Martins et al., 2015; Moore, 2010; Rees, 2001). This is not mentioned and seems also important to be taken into consideration when contextualizing the study in the introduction and in the discussion section. For example, some factors seem to be similar across studies with healthy and unhealthy youth (e.g. fun / motivation / perceived competence; social support from family and friends). Other barriers and facilitators seem specific to the health status of young people (e.g. normality, etc...).

Thank you for highlighting this point. As the reviewer suggested, there is a considerable body of work exploring barriers and facilitators to physical activity among “healthy” adolescent populations. As CF

is likely to introduce barriers (e.g., illness) and facilitators (maintaining lung function) that are specific to this population we really wanted to focus on this literature and dedicate the majority of the word limit here. However, we agree that there is considerable overlap with the literature focusing on individuals without CF, and have introduced this literature into the background and discussion sections.

3. In general, the introduction warrants further consideration as whilst it discusses pertinent work, it perhaps fails to discuss some of the qualitative works that are relevant for the present study. Moreover, the introduction could be improved to better set the importance of focusing on young people's voices. Why is it important to focus on young people's voices? This is another critical point that should be addressed by the authors.

We thank the review for this comment. Our decision to explore the voice of young people was based on the vast body of literature that highlights the critical need for user involvement in research (e.g., INVOLVE, NIHR, JLA) as well as the need for user involvement in intervention development (e.g., Yardley et al 2015, Campbell et al 2007, Moore et al 2011). We have now added a section in the introduction explain that there is widespread agreement among intervention developers that eliciting and addressing the needs and perspectives of the target audience is a critical part of intervention development (Moore et al). It is impossible for research teams to predict the needs and preferences of the target audience, and so it is crucial that we elicit the views of intervention recipients. Qualitative research methods provides one avenue through which to explore these views (Yardley). Identification of the issues faced by young people with CF will ensure that interventions are targeting relevant and important objectives.

4. The paper is focused on children (aged ≥ 4 years), adolescents and young adults (inclusion criteria: aged no more than 24 years old). Previous qualitative studies tend to focus on children, adolescents or adults separately (or at least stratified the analyses or data presentation). How did the identified psychological or environmental facilitators/barriers of physical activity varied across children aged 4-9 years, for adolescents aged 16-17 years, or for young adults aged 18-24 years? Were their any differences in their perspectives? Are the presented results the same regardless of the age of the participants? How should professionals working with children and adolescents look into these findings? Are the recommendations the same for working with children and adolescents? What about the marked differences that tend to exist between boys and girls concerning the participation factors? It is my opinion that these issues might be better addressed throughout the paper (introduction, results, discussion) by the authors.

Thank you for this comment. There were no evidence of any differences in barriers and facilitators to physical activity among males and females or the different age groups. Indeed, this was not an aim of the primary research (thus data were not explored with the aim of identifying differences between participants of different demographics) and therefore we were limited in our ability to explore this in our analyses. With regards to the ages of the participants, the majority of the papers targeted participants between the ages of 10 and 17 years. Only one study included in the review included children as young as four years. However, the authors of this paper also recruited participants up to the ages of 16 years and did not refer to participant age in the analysis. The one paper that targeted older participants (>18 years) has now been excluded from the analysis. We have added a paragraph to the discussion section in which we acknowledge this limitation.

5. Only one study involved participants with more than 18 years of age (Street et al., 2014). In Street's (2014) study, it is not clear how many participants were aged 24 years or less. The participants' age varied between 18 and 46 years. So did the authors capture the voices only of those participants aged below 24 years or off all individuals regardless of their age? Based on what was previously said, the authors might consider focusing their analysis on the subgroups of children and of adolescents (i.e. the 7 studies, where participants were aged 4-17 years old). The perspectives of children and adolescents, as well as from boys and girls, should also be addressed in the discussion section.

Thank you for this comment. We accept that the study in which participants were over 18 years is different to those focusing on younger children, and agree that focusing on participants between the

ages of 4 and 17 years would be beneficial. We have therefore removed the paper targeting participants over the age of 18 years from the analysis.

6. Finally, when characterising the studies included in the review (table 1), I think that it is critical to understand what are the physical activity characteristics of the participants (their levels; active vs inactive, inactive now but were active during their childhood, ..., how physical activity was measured in the different studies...). Since we are talking about the perspectives of young people concerning the main facilitators and barriers of physical activity, which tend to be distinct (Allender et al. 2006; Martins et al., 2015), it seems to be important to characterize the participants and take this feature into account throughout the study.

Thank you very much for this comment. We agree that consideration of the activity levels of the participants would be interesting. Only one author (Shelley) measured the physical activity levels of the participants, however, it was not possible to identify activity levels based on the quotes presented. We were therefore unable to consider the activity levels of the participants in our review. We now acknowledge this issue in the discussion section of the manuscript.

>> Minor comments to the authors:

Title

7. Based on previous comments, and by taking into account the review characteristics consider including in the title the word “children”. For example, children, adolescents and young adults would be more specific. Otherwise the study includes “young people” with 4 and 24 years old.

Thank you for this suggestion. We agree with the reviewer that children, adolescents and young adults would be more accurate, and have amended the title to reflect this.

Abstract

8. Suggestion: Consider reallocating the expression “Results were synthesized using thematic approach” from the results into the final of the methods section.

Thank you for this comment. We have moved the sentence from the results to the methods section of the abstract.

9. Specification: In the conclusion specify/highlight some of the main facilitators and barriers stemming from this review, instead of major influences such as: physical, psychological, social and environmental influences.

Thank you for this suggestion. As we report the main barriers and facilitators to physical activity in the results section, we would prefer

Introduction

10. Page 7, Lines 9-19: needs to be supported by references.

Thank you, references have been added to these lines.

11. Page 7, Line 46: since you have studies from different countries, consider reporting here the World Health Organization (2010) PA recommendations instead of the ones that are specific to the UK.

Thank you for this comment. We have changed the UK reference to an international reference (Guthold., et al) to reflect the international literature we review.

12. Page 7, Lines 51-54: needs to be supported by references.

Thank you, additional references have been added to support these statements.

Methods

13. P12, Lines 6-21: please clarify the steps taken to increase rigor in the analysis of the data? Clarify if: diversity in perspective was explored; the analysis sought to rule out alternative

explanations for findings. Furthermore, was data saturation reached across all themes? How many persons were involved in this phase of data synthesis? Clarify.

Thank you for this comment. We now clarify that we employed multiple measures to maximise trustworthiness within this study. This included clear exposure of methods of data collection and analysis, maintaining an audit trail of the analysis process, attention to negative cases, and engaging in multiple discussions with the research team to challenge themes as they develop.

Findings,

14. P20, Lines 16-33: This is not very clear for me. Rephrase it, please. Moreover, the authors should provide further examples of young people voices concerning these statements made here.

Thank you for this comment. We have now rephrased this section of text and added additional quotes to support the statements.

15. P21-22. The coping strategies are based on the studies 32 and 38 (mainly this 1st one). Were there any other studies that addressed the coping strategies? If yes include it here.

Thank you for this comment. Unfortunately, coping strategies were not mentioned in any of the other studies not described in this section. This could be reflective of the fact that the primary aim of the studies were to identify barriers (and facilitators) to physical activity, rather than approaches to overcoming barriers identified.

Discussion

16. Some themes were not discussed or could be further developed, namely: competing priorities; environmental influences.

Thank you for highlighting this issue. We have now modified the discussion section to develop these themes.

Conclusion

17. Specify the numerous targets for future interventions. Is the use of them straightforward from researchers/practitioners? How do they might be adapted based on age, gender or socio-cultural contexts from the young people?

Thank you for this comment. Through this manuscript we aimed to provide an overview of some of the likely barriers and facilitators faced by young people with CF. We do not mean to imply that all young people with CF will experience these issues, but that the healthcare professional should identify which issues are pertinent to each individual patient. As previously mentioned, through this review, we were unable to identify any demographic factors likely to influence physical activity and this has now been noted in the discussion. Our key recommendation would be that clinical teams work with their patients to identify barriers and facilitators to physical activity for each individual. We suggest that our results may provide a framework that healthcare practitioners may use to structure discussions relating to physical activity, and could potentially highlight some barriers (or facilitators) that they may not previously have considered. We now highlight this in the conclusion section of the manuscript.

VERSION 2 – REVIEW

REVIEWER	Jacqueline Lavallée University of Manchester, UK
REVIEW RETURNED	16-Jan-2020
GENERAL COMMENTS	Thank you for revising the manuscript in line with the reviewer comments and resubmitting. I enjoyed reading the updated manuscript and believe the authors have raised some very good points which are useful for both research and practical reasons.

	<p>The revised manuscript is much clearer and very informative. Thank you for highlighting some very important points.</p> <p>I have some minor comments below to assist with improving the manuscript.</p> <p>Introduction Page 7, line 46: there is a typo. I think this should read 'recommended 60 minutes of daily moderate to vigorous activity'. Page 7, line 59: you use the full term cystic fibrosis, but up to this point you have abbreviated – please be consistent.</p> <p>Results Page 24, line 13: self-care typo.</p> <p>Discussion Page 28, line 42: this is the first mention of the COM-B. Until now you have only mentioned Self-Determination Theory and the Socio Ecological Model. Please either remove this reference to the COM-B model as it does not seem appropriate or include an explanation of how the COM-B model informed your synthesis within the methods section. If you do the latter, you will need to include a brief explanation of what the COM-B model is.</p> <p>General Please check for American spellings.</p>
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REVIEWER	João Martins Faculdade de Motricidade Humana, Universidade de Lisboa
REVIEW RETURNED	22-Jan-2020

GENERAL COMMENTS	Congratulations for your great and important work. The authors have done a good job addressing the both Reviewer's comments. The paper quality has improved and is now ready for publication.
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VERSION 2 – AUTHOR RESPONSE

Response to reviewer 1.

Thank you for highlighting the typos which we have now corrected.

Response to reviewer 2.

Thank you very much for your positive comments.