Author’s response to reviews

Title: Key concepts in children’s footwear research: A scoping review focusing on therapeutic footwear

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Author’s response to reviews:

The authors would like to thank the reviewers for their constructive feedback. We have had an opportunity to review the comments and have addressed them as follows:

Reviewer 1

Reviewer’s Comment

Thank-you for the opportunity to review this manuscript which sought to explore children's footwear research and concepts in therapeutic footwear. The focus of the scoping review was interesting and there will be benefits with this work progressing to publication. Nevertheless, consideration of a number of points is warranted before this. The background/literature review offers a broad overview [as expected in a scoping review] but this should be aligned with objectives. A clearer direction would help sharpen the rationale for the review.

Authors’ Response

The Introduction has been edited to highlight the focus to the review from the perspective of therapeutic footwear in relation to children’s footwear research.

Reviewer’s Comment

The authors refer to the long-term effects of footwear (lines 54-56). How is this relevant to the objectives?

Authors’ Response
We appreciate your comment. The authors feel that it is important to highlight this as a background statement as it is often discussed within scientific and clinical literature.

Reviewer’s Comment

Also, the authors draw on a United Nations report and a UK report about disabilities. The transition between these issues could be clearer. The focus on disabilities is fleeting and (I suspect) the manuscript should convey a stronger focus on this topic...particularly as therapeutic footwear is the focus later in the manuscript. In its current form, the review is so vast it is difficult to determine a clear direction and outcome from the scoping activity.

Authors’ Response

The structure of the introduction has been edited to add clarity to the focus and intention of the review. Although the review appears vast the purpose was to clearly chart and define footwear that had been intended for therapeutic use and how this sat in perspective to children’s footwear as a whole. At inception it was unclear how footwear intended for therapeutic use in children had been defined or studied, the study sought an encompassed review to chart all areas of research related to children’s footwear that may be worn for daily activities, this would ensure all relevant studies in relation to children’s therapeutic footwear would be captured.

Reviewer’s Comment

Some clarification needed about footwear. The authors refer to - ‘a component of mechanical intervention...’ and ‘role as a therapeutic objective. Please explain.

Authors’ Response

Text modified to address this comment.

Reviewer’s Comment

As mentioned, the literature is far reaching but should underpin the objectives more closely. The overall aim covers conventional and therapeutic footwear...why are both needed? This dilutes the focus on both. A more refined focus would help with the detail presented further in the manuscript.

Authors’ Response
Modified text within the introduction and the change of title should help address the comment made.

Reviewer’s Comment

The inclusion of the search terms would be appropriate.

Authors’ Response

Search strategy including the search terms are provided as a supplementary file. Whilst we can include this within the main manuscript, it will distort the readability of the paper.

Reviewer’s Comment

Was there a protocol developed a priori?

Authors’ Response

In addition to the search strategy (supplementary file 1), the inclusion and exclusion criteria were clearly identified and a data extraction tool was developed. In this context, the protocol for the search was developed a priori.

Reviewer’s Comment

Justification for the search strategy is needed - why have the authors included papers since database inception? What impact has this? What was the process for the selection of studies? Who extracted the data? How? What did charting of the studies involve? What process informed the two over-arching themes and eight general groupings? Detail about the emergence of these would be useful.

Authors’ Response

Papers were considered from inception since designs of footwear intended for a therapeutic purpose in childhood have been postulated since the 18th century. The search would allow review from a broad perspective both historical and modern, Further since there was no apparent pre-existing focused review on children’s therapeutic footwear any defined date cut off would have been from an arbitrary basis on when not to consider historic work with the possibility of missing seminal historic text.
Screening section has been modified to highlight the duplicate removal. One reviewer, The Principal Investigator (PI) (MH) independently screened the titles and abstracts yielded by the search against the eligibility criteria, with regular verification with reviewer 2 (AH). Any uncertainties were resolved with reviewer 3 (NC).

The PI extracted all the data and the charting process was iterative with agreement between all three authors. Text within the manuscript is modified to reflect this comment.

Reviewer’s Comment

There needs to be clarity on the terms used. For example - what does developmental effects mean in relation to footwear? The authors cite typical and atypical development. These are undefined and could mean many things. Please explain. Further, the authors revisit growth and development in the discussion (lines 314-318). How is this related to footwear? How was this the largest grouping? What are the authors referring to here? Were non-English [full-text] studies translated?

Authors’ Response

We appreciate your comment. It is intention of the authors to cover all aspects of childhood development rather than focusing on specifics (such as motor development). In this context we strongly feel that our use of “typical and atypical” is justified.

The authors do not fully appreciate the comment relating to “growth and development”. The text within the paper clearly refers to our results and this is one of main groupings. This grouping was made based on the data extracted from these papers.

Non English text studies were not included in this review, this is documented within the inclusion and exclusion criteria.

Reviewer’s Comment

Similarly, how were definitions about corrective, accommodative and functional footwear formed? Was this before the review commenced, or as a result of the review? Can footwear be corrective in the context of pes planus, lower limb alignment etc?

Authors’ Response

It is not the intention of the authors to provide new definitions. However, the description of therapeutic footwear (Corrective accommodative and functional) involved narrative analysis based on previous research. Citations for these articles have been provided.
Reviewer’s Comment

The n reported don't seem to equate to the articles cited in the text. The authors might want to include a table so that the references being cited are more transparent. The inclusion of dated literature (eg line 165, pg 7) impacts on the robustness of the arguments presented. The authors might want to consider this in their limitations. Clearer alignment of the narrative to the literature (e.g. lines 214 - 216) would be helpful.

Authors’ Response

To clarify the point on “n”, we have now provided all the references and associated information as an additional file.

Whilst we have provided appropriate references to the text to make it clearer, the authors do not fully comprehend the comment on dated literature. We have included them to showcase the historic perspective and in our opinion it doesn’t impact the robustness of the argument.

Narrative now fully aligned to the literature.

Reviewer’s Comment

The perceived therapeutic role (line 180) - who defined this role?

Authors’ Response

The groupings were based on the information provided within the abstract. Text within the manuscript is modified to reflect this comment.

Reviewer’s Comment

Review phrasing (line 182) '...atypical development foot deformity...'

Authors' Response

Text modified

Reviewer’s Comment

Lines 331-335 avoid use of significance.

Authors’ Response
Text modified

Reviewer’s Comment
The ICF re-appears in the discussion but lacks context and application. How does this relate to the findings of the scoping review?

Authors’ Response
Given the changes within the introduction, the authors consider this discussion point is now relevant.

Reviewer’s Comment
What were the limitations of the scoping review?

Authors’ Response
Text modified to include the limitations.

Reviewer’s Comment
Are there implications from this review for research or practice?

Authors’ Response
This scoping review focuses on supporting future research. Text within the introduction is modified to reflect this comment.

Reviewer’s Comment
What is the basis for the recommendations of the use of the definitions within the conclusion? There is insufficient consideration of this in the discussion. The indication for a further systematic review is unconvincing.

Authors’ Response
We appreciate your comment. As outlined within our results there is a wide variety of terminology used within the literature which warrants some consistent phrases as outlined in the conclusion section. In our opinion, this narrative of proposed role of footwear definitions will
allow clear categorisation and comparison for further research. We could possibly include further text but the authors feel that this will diminish the focus of the conclusion.

As outlined within the conclusion, we need to establish the quality of reported evidence which is beyond the scope of the current review. This clearly warrants a systematic review.

Reviewer’s Comment

Review referencing to align with journal requirements.

Authors’ Response

Thank you for this comment. We have made necessary amendments.

Reviewer’s Comment

Further to the consideration of the points raised, the authors might want to evaluate their resubmission against the PRISMA-ScR.

Authors’ Response

The Prisma Reporting extension guidelines for scoping review were published after the inception of this current review. However the review followed the procedures laid out within the guidelines. We have now provided an additional file - PRISMA-ScR Checklist.

Reviewer 2

Reviewer’s Comment

The Title shall reveal clearly that it is a review paper; in addition the phrase 'therapeutic and conventional' seems to indicate that standard footwear are addressed, which is misleading. The field of 'mobility impairment' here addressed should be included.

Authors’ Response

In response to this comment the title of the paper is now amended.

Reviewer’s Comment
In the Abstract, the inclusion criteria should be made clearer, those that selected the 287 papers from the large initial total of 5,006 articles.

Authors’ Response

Text within the abstract is modified to include “All studies that used footwear as an intervention in children aged 9 months to 18 years with the outcome measures including design, fit and the effects on development and health were included”.

Reviewer’s Comment

Also the scope to discussed separately footwear design and effects of footwear must be declared more clearly since the beginning.

Authors’ Response

We appreciate your comment. I think the “scope” in your comment refers to the overarching areas. We would like to highlight that these areas were identified during the process of the review as a part of the analysis. These were not set out from the beginning and we have made some amends to the text within the introduction to reflect this comment. The abstract itself has undergone substantial changes.

Reviewer’s Comment

The conclusion there is too long, and about terminology, again not addressed above. Eventually it is not clear from the Abstract which concepts are searched in the literature, and why.

Authors’ Response

The abstract is now fully amended to reflect the paper.

Reviewer’s Comment

The Introduction is quite informative, but in the last paragraph the two objectives are quite general. The overall aim then (‘to summate the current state and scope of knowledge in relation to...’) is even more generic.

Authors’ Response
The authors do not fully understand this comment. The purpose of this paper is to provide a general scoping review which may lead to a systematic review. In this context in our opinion the aim and objectives are clear.

Reviewer’s Comment

Table 1 in Methods can be more compact (or even substituted with normal text).

Authors’ Response

This table is now amended to be included within the text.

Reviewer’s Comment

From the Results, it is surprising that from the inizial search with 10,608 articles nearly half of these had to be removed because duplication.

Authors’ Response

Given the nature of databases searched and from our experience it is not that surprising. We have modified the text within the screening section to reflect this comment.