Reviewer’s report

Title: Effectiveness of Interventions during NICU Hospitalization on the Neurodevelopment of Preterm Infants: A Systematic Review Protocol

Version: 0 Date: 11 Jun 2017

Reviewer: Natalie Strobel

Reviewer's report:

Background: The background is comprehensive and clearly explains why the review is being undertaken.

Methods - PRISMA checklist:

#5c of the PRISMA checklist - you have 'reported roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol'. This information is provided under declarations. Please add in the appropriate page numbers.

#10 - Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated - It is standard for systematic reviews to have this. Can you please add a draft search strategy?

Study design: Can you please clarify whether the cluster trials need to be randomised, I assuming it should be cluster RCTs. Also how will you be including cross-over trials? What is a sufficient wash-out period for these types of trials to be acceptable? It is unusual to include this type of trial in a SR.

Also what are you considering to be a quasi-RCT - please provide what you won't be accepting for example will you be accepting allocation by alternative births? This is a randomisation process just not a 'true' one.

Why are you taking studies in the last 15 years? Also why won't studies to the most current date be accepted e.g. 2001-2017? Please justify this choice of dates and time frames.
Participants: You mention parents as participants and including data on them in the review, however, there is no mention of parent outcomes in the outcomes section. Please clarify or add relevant outcomes to the appropriate section.

Interventions - Will you be including multi-faceted interventions? I.e. more than just one aspect such as sensory stimulation. If so how will these be dealt with in the meta-analysis?

Primary outcomes: I'm not sure what you mean by this sentence (below Line 100-102): Studies where infants' neurodevelopment was evaluated following discharge and before 24 months of corrected age will be considered only if this outcome was also measured during hospitalization.

If the outcome needs to be during the hospitalisation then why the clarification of after discharge? If you don't include all studies for that intervention that have neurodevelopment assessment after discharge you can't do any statistical analysis with them as the outcome is biased by not including all relevant studies within the literature. This same comment is relevant for secondary outcomes. If you only include those studies that have had neurodevelopment assessed then it will be biased for physiological stability and sleep because you have missed out on other studies that have done this. How will you deal with this?

Outcomes: Can you please provide some standardised test examples for all of the outcomes. This will help to clarify neurodevelopment.

It is not clear what 'short-term' actually is. If an infant is born at 24 weeks, has an intervention and is assessed at 36 weeks compared to an infant born at 30 weeks and assessed at 36 weeks is this still short-term? Even though there is double the amount of time. In addition how will you take into account these time differences in your meta-analysis, particularly as preterm infants can have quite long hospital stays. Some clarification about 'short-term' and groupings for time points of assessment would be helpful.

Data synthesis: Line 129 'too significant' please clarify what is this is?

Search Strategy: Is there a reason you are searching both MEDLINE and Pubmed? One or the other is normally sufficient. Cochrane tends to go with MEDLINE using the OVID platform.
Minor comments:

Line 47: which are described according to the study design (including publication language and year) - Please add a comma between publication and language.

Line 76: Endnote is spelt incorrectly

Please reference the Egger test and the Mantel-Haenszel method.

Level of interest
Please indicate how interesting you found the manuscript:

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