Reviewer's report

Title: The use of an alternate side lying positioning strategy during inhalation therapy does not prolong nebulisation time in adults with Cystic Fibrosis: a randomised crossover trial

Version: 0 Date: 21 Aug 2017

Reviewer: Malcolm Brodlie

Reviewer's report:

I enjoyed reading this well-written manuscript.

Although a relatively simple study design it is carefully described and executed.

Importantly the research question is one that is relevant to people with CF and clinicians.

It is acknowledged that the study is not definitive/comprehensive enough to support a change in clinical practice but is likely to prompt further research in this area.

My specific comments are:

- Were participants not asked about their experiences of the 2 different techniques for nebuliser delivery? Why were PROMs or narrative-style experiential data not collected? This could be worthy of discussion.

- Abstract: in the results section correlations are mentioned with height, lung function and delivery time ... I could not find details of these in the main body of the paper

- Introduction: as a minor point can you confirm that this subject has never been examined previously, not even in in vivo/experimental models where drug deposition could be more easily studied

- Methods: Aim 2: could be rephrased there are too many 'cans' as written

- Was data recorded about the natural decay in rate of delivery that occurs with normal saline in this nebuliser? It is alluded to in the text a couple of times but not demonstrated that I can see? could be supplementary information
Along the same lines, linked to the comment above, worth stating how long this type of nebuliser takes for delivery of a 'typical' CF medication, the durations seem quite long compared to some other systems to this reviewer.

Discussion: I agree people with CF might choose to alternate sides between nebuliser sessions but think could be worded slightly more strongly that it hasn't been investigated specifically in this study in terms of looking at alternate sides or drug deposition, may be suboptimal clinically depending on the mechanism of action of the particular drug if only delivered effectively every 48 hours for example if od regime.

Legend for fig: would be nice to see the associated CIs and stats included in the legend so it can stand alone.

Supplementary info says copyright Respiratory Research: needs to be changed and could you confirm not previously published in Respiratory Research?

Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
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Yes

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I am able to assess the statistics

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