Reviewer's report

Title: Adherence to treatment in children with cystic fibrosis: a cross-sectional, multi-method study

Version: 2  Date: 12 December 2014

Reviewer: Jennifer Butcher

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The manuscript entitled Adherence to treatment in children with cystic fibrosis: a cross-sectional, multi-method study focuses on an understudied area that may play an important role in self-management behaviors of children, parent beliefs. Strengths of this study include using multiple methods to measure medical regimen adherence and the use of both parent and child-reported data. The following suggestions are offered to the authors for consideration:

Major compulsory revisions
None

Minor essential revisions
1. In line 88, a citation for the TIDES-CF study should be included since results have been presented.
2. Citation number 18 (Bucks et al., 2009) should be included in the background section since it seems directly relevant to this manuscript.
3. Please provide statistical justification for considering a p value of <0.2 a trend.
4. Line 243 includes an extra period after Figure 2.
5. Lines 337-340. The two sentences in these lines seem contradictory.

Discretionary revisions
1. It would be helpful to make the title more description by including words such as “parent beliefs.”
2. For the background section, the authors may wish to review the recent publication by Sawicki, Heller, Demars, and Robinson (2014) in Pediatric Pulmonology which supports the role of beliefs about importance of treatments in medical regimen adherence.
3. There are many hypothesized barriers to medical regimen adherence in cystic fibrosis (child resistance, time management, etc.). Because of this, it would be helpful if the authors provided further rationale for choosing to study beliefs about treatments and parental depression since these two variables do not intuitively fit together.
4. In the methods section under the review of the BMQ, it would be helpful to explain what “successfully piloted in 10 parents and their children means.” It may be more useful to include the internal consistency information here to support the
modifications made to the instrument.

5. Please explain how the CES-D prevents “underestimation of depressive symptoms present in parents of children with cystic fibrosis.”

6. In the discussion of adherence in the results section, it would be beneficial to know how many children were nonadherent across all treatments (vitamins, chest PT, and enzymes).

7. It may be worth rechecking the odds ratios for theparent necessity of enzymes and chest PT since it is interesting that they are exactly the same.

8. Consider providing justification or noting in the conclusions why such a large age range was used (0.2 years to over 18 years) since age was so strongly associated with adherence, and it would be expected that parents would play a very different role in adherence across this age range.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.