Minor Revisions:

This is an important study about daily activity patterns in adults with bronchiectasis, laying the groundwork for a possible exercise intervention for these patients. There is little currently known about physical functioning or health-related quality of life in this population and this manuscript makes an important contribution. There are some minor issues that need to be addressed prior to publication.

1. Abstract

It would be useful to mention the application of the transtheoretical model in this study. Also, the results on the two HRoL domains that remained in the model and contributed to explaining both the MVPA (QOL-B Social Functioning) and the Daily EE and QOL-B Respiratory Symptoms. It is not surprising that measures of activity are predictive of the MST (a progressive exercise field test); therefore some of the other predictors may hold more information (e.g., decisional balance, some HRQoL domains). In addition, it seemed like very different variables were associated with sedentary vs. physical activity parameters.

2. Introduction

This is clear and well-written, however, the TTM model should be explained in more detail (would recommend a Figure showing how this model is tested in this study). Given the small sample size and cross-sectional nature of the study design, have a strong theoretical rationale for the variables you selected would greatly improve the paper. Although the study was exploratory, application of the theory should provide some guidance.

3. Methods and Results

It would be helpful to explain why the 8 cases were not valid. All scale names for instruments should be capitalized. Some internal consistency and validity data should be provided for all of the measures (Marcus Decisional Balance, QOL-B, MST). Cite Thorax paper for psychometrics on the QOL-B.

One of the most interesting aspects of this study, which was well-described in the Intro, is the comparison of sedentary vs. physical activity behaviors. How would this set of predictors differentially relate to these outcomes? It would be helpful to
present these results in more detail and also discuss them in a paragraph in the Discussion.

The results on the QOL-B are not described in any detail. Since this is a new measure, it would be important to report the results in a more comprehensive way. Although MVPA was related to QOL-B Social Functioning, this was characterized as a “weak” relationship and not discussed. However, it appeared to be the only significant predictor of MVPA (how is this variable different from “Daily Total MVPA?”). Accounting for 15% of the variance is not an insignificant association between a physiologic variable (based on actigraphy) and patient-reported outcome, especially since these predictors and outcome measures might be considered somewhat overlapping (actigraphy and Shuttle Test). The two MVPA measures should be better described in the Methods section.

It would be helpful to include a table of correlations among the predictors and outcome variables so that readers can see the simple linear associations.

What do the authors think about the predictors of AEE (MST, BMI, QOL-B Respiratory Symptoms)?

4. Discussion

If the TTM model is described in more detail in the Intro and some hypothesized linkages among the predictors and outcomes is described, this would be very helpful to organize the issues in the Discussion.

The differences between the models for sedentary and physical activity behaviors could be discussed further. Sedentary behaviors were related only to the Marcus Decisional Balance Scale. Does that suggest that MI or something that moved people toward the decision to exercise would be a necessary first step in a future intervention?

Activity expenditure was related to respiratory symptoms. Is that in the negative direction (more activity, worse symptoms)? If so, this could potentially explain the challenges of patients with bronchiectasis engaging in physical activity.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I am the developer of the QOL-B. However, this instrument is free and available to all and I have no financial relationship with any aspect of this study.