Reviewer's report

Title: Dalhousie Dyspnea Scales: construct and content Validity of pictorial scales for measuring dyspnea.

Version: 2 Date: 27 January 2005

Reviewer: Ran Anbar

Reviewer's report:

Development of child-friendly scales for dyspnea is an important goal undertaken by the authors of this manuscript.

Major Compulsory Revisions

1. In the methods section, the focus groups consisted of children between the ages of 8 and 19 years. Yet, when the validation of the scales was undertaken, participating children ranged in age between 6 and 18 years. Why was there a discrepancy between the ages of the children in the focus groups and validation groups? Is it possible that this discrepancy may account for the inability of 6 and 7 year old children to use the scales appropriately? The authors should address this possibility in the discussion.

2. The dyspnea scales appear to have been developed with patients from Dalhousie. In the discussion, the authors should address the cultural impact on interpretation of pictorial scales, and that the results of this study may not apply to other cultures. (For example, a description of a dyspneic sensation as being sharp, burning, or needle-like, may be culturally based. Therefore, the rough rope used to depict such sensations may not perceived in the same way by a member of another culture.)

3. Children with asthma and cystic fibrosis can have disease that ranges from slight to severe. In order to understand the results of this study, we need to have an appreciation of the severity of illness of the subjects. For example, it is possible that the children with cystic fibrosis rated the 7th picture of the chest tightness pictorial scale lower than children with asthma or healthy children, because the children with cystic fibrosis were very ill, and had in mind an even â€œtighterâ€ chest appearance that would have fallen higher on the VAS.

4. Table 1 and Figure 2 mostly present the same information. One of these should be eliminated.

Minor Essential Revisions

5. There are several small typographical errors within the manuscript that must be corrected. For example, there is an extra period at the end of the second sentence of the Background section. At the end of the same paragraph there is a superscripted reference 1 that appears extraneous.

6. The references should be provided in the text only by number, rather than by number and names of the authors.

7. At the beginning of the methods section â€œIWKâ€ should be spelled out.

8. In the reference section, the references need to be written in BMC style, e.g., there should be no comma after the journal name, and the volume number should be in bold face.
Discretionary Revisions

9. In the abstract results section, consider adding “approximately” before “equal.”

10. In the Results section, consider describing the themes that were not included in the scales, and the reasons for their exclusion. For example, why did the authors choose to exclude an affective response scale?

11. I found the effort scale confusing (as shown in Figure 1). For example, it is not obvious to me that the 4th picture should precede the 5th picture. Perhaps it is for this reason that only 76.8% of 8-18 year old subjects placed the 4th picture in the “correct” order, and only 66% of them placed all of the effort scale pictures in the “correct” order. Perhaps the authors should discuss that based on this result some of the pictures, and especially the 4th picture might be redrawn. In such an event, the scale would need to be revalidated.

12. Consider showing the scatter plot of the data that revealed the break between 6-7 year old subjects and the older ones.

13. The authors may wish to discuss whether the statistical differences of p = .015 and .013 were significant, given the multiple comparisons undertaken. Also, they may consider a statement in the discussion regarding the power of the study to detect statistically significant differences based on the number of enrolled subjects.

14. In the Discussion section the authors state that this study demonstrates the pictorial scales were valid psychophysical measures of dyspnea. Would it be more accurate to state that the scales appeared to be a valid measure for reporting dyspnea for healthy children, and those with asthma and cystic fibrosis? The current study does not address the correlation of the scales with physical measurements.

15. The authors may wish to speculate how children with causes of dyspnea other than asthma and cystic fibrosis would respond to the dyspnea scales. For example, children suffering from vocal cord dysfunction and other upper airway problems may react differently to the throat closing scale than children with asthma and cystic fibrosis who predominantly have lower airway disease. The authors might suggest that studies in such populations are necessary. Similarly, it is unclear how children with dyspnea that arises from lack of conditioning would react to the scales.

16. It is not clear to me why PTP’s honoraria from Merck Frosst are a competing interest with this study.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.