aminophylline for status asthmaticus in the PICU (e-Appendix 1). The survey was distributed three times at 3-week intervals, and responses were anonymous. The study protocol and questionnaire were approved by the Vanderbilt University institutional review board (protocol No. 101136).

Responses were received from 39 of the surveyed program directors (67%). Twenty-three of those responses (59%) indicated that their PICUs currently use aminophylline for status asthmaticus. All positive respondents (100%) indicated that aminophylline use was based on clinical judgment rather than institutional protocol. Twenty of those using aminophylline (57%) stated that the medication was used only when other treatments had failed. Fourteen of the respondents (61%) whose institution used aminophylline identified a therapeutic range for serum aminophylline levels. Six of these respondents (43%) identified a therapeutic serum level of 10 to 20 μg/mL for aminophylline, the generally accepted therapeutic range. There was variation in the reporting of both the minimal effective serum level (mean, 10 μg/mL; range, 5-15 μg/mL) and the toxic serum level (mean, 17.9 μg/mL; range, 10-25 μg/mL).

Aminophylline continues to be used to treat status asthmaticus in PICUs, as determined by surveying fellowship training programs, despite limited evidence for efficacy and expert guidelines recommending against its use for this purpose. If pediatric critical care physicians are to continue to use this drug, further studies are recommended and warranted to assess its efficacy and safety.

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References


What Is the Pulmonary Rehabilitation Adapted Index of Self-Efficacy Tool Actually Measuring?

To the Editor:

We read with great interest the study by Vincent et al recently published in CHEST (December 2011). We commend the authors for expanding the field of self-efficacy research for patients with COPD. The Pulmonary Rehabilitation Adapted Index of Self-Efficacy (PRAISE) tool contains 15 items, 10 assessing “general” self-efficacy and five assessing self-efficacy specific to pulmonary rehabilitation (PR). The PRAISE tool showed a significant response following PR; however, given the task-specific nature of the self-efficacy construct, we wonder if the increase in self-efficacy was predominantly related to an improvement in the PR-specific items rather than in general self-efficacy. We believe the article would have benefitted from an analysis of individual item performance. If the improvement had been related to PR items only, it may have allowed for abbreviation of the tool. On the other hand, improvement of the general self-efficacy items would suggest that PR benefitted areas other than mastery of exercise, such as problem-solving and coping skills (critical aspects of behavioral change for self-management), even though changes in behavior following PR were not measured in this study.

Our interest in exploring the task-specific nature of the self-efficacy construct emerges from our own research. We recently completed the validation of two physical activity questionnaires in patients with COPD compared with objectively measured physical activity, and we included self-efficacy as a possible covariate. We found that general self-efficacy (Stanford Self-Efficacy for Managing Chronic Disease 6-Item Scale) was not significantly associated with physical activity. If the proposed analysis confirms that the PR-related items were responsible for the measured improvement, then our results are congruent and collectively highlight the importance of creating task-specific self-efficacy tools.

We agree with the authors that self-efficacy for activities prescribed in PR may contribute to a critical behavior: adherence to the PR program. Regrettably, the pre-PR PRAISE score showed no association with completion of the program. There were, however, correlations between the change in the Chronic Respiratory Questionnaire emotion and mastery domains (which may represent improved behaviors) and the change in the PRAISE score following PR. We believe a mediation analysis, as described previously, is the most appropriate way to determine if the change in self-efficacy is responsible for the improvements in these domains rather than the direct effect of the PR itself.

We believe the proposed analyses will help determine what the PRAISE tool is actually measuring. We are convinced that additional research aimed at understanding the behavioral aspects of PR is critically needed.
Aim of this work is to examine the effect of a school-based physical-activity intervention on adolescent girls. The study was conducted in five secondary schools in the United Kingdom. A total of 126 girls (mean age 14.4 ± 1.2 years) were randomly assigned to the intervention or control group. The intervention group received a 16-week intervention program that included physical activity, nutrition education, and social skills training. The control group received no intervention. The primary outcome measure was physical activity, assessed using accelerometers. The secondary outcome measures included self-efficacy, social support, and stress.

**Main findings:**
The intervention group showed a significant increase in physical activity compared to the control group (p < 0.05). There was also a significant increase in self-efficacy and social support, and a decrease in stress in the intervention group compared to the control group (all p < 0.05).

**Discussion:**
The results suggest that a school-based physical-activity intervention can improve physical activity and mental health outcomes in adolescent girls. The intervention may be a useful tool for promoting healthy behaviors in this age group.

**Conclusion:**
The findings highlight the importance of integrating physical activity into the school curriculum and provide evidence for the potential benefits of such interventions on adolescent health.