Practice Changes in Cystic Fibrosis Management: Effectiveness of Continuing Education

OBJECTIVE

Advances in the treatment of cystic fibrosis (CF) have resulted in significant improvement in survival. 1, 2 Ongoing developments involving therapies that target mutations in the CF transmembrane conductance regulator (CFTR) are encouraging and may lead to further improvement in patient outcomes. However, a number of challenges continue to face clinicians who treat patients with CF. These challenges include clinicians’ nonadherence to infection management guidelines and patients’ difficulty following treatment regimens that typically involve multiple therapies. 3, 4 A study was conducted to determine if an online educational intervention addressed to these important gaps in the care of patients with CF could improve clinician practices.

METHODS

An activity titled Addressing Treatment Challenges in Cystic Fibrosis (http://www.medscape.org/viewarticle/814703) launched online on 11/25/2013. The intended goal of this activity was to provide education on the management of CF, including therapies directed at Pseudomonas and therapies that target CFTR.

This activity sought to overcome attitudinal and performance barriers to optimal outcomes in CF by improving clinician knowledge about the changing epidemiology of infections in CF and improving implementation of and adherence to guideline recommendations. The activity was intended for pulmonologists and other clinicians who provide care for patients with CF.

Instructional Method

The format used to deliver this education was a video-based roundtable panel discussion conducted by expert faculty using synchronized slides, with built-in peer response to encourage participant interaction and feedback. The format was designed to facilitate highly interactive dialogue among key opinion leaders, highlighting key study findings and recommendations on the treatment of CF. For learners wishing to view the program offline, a transcript and slides were made available for downloading/printing. In addition, this activity was available on the Medscape Mobile application, ensuring real-time access by the many clinicians who rely on mobile devices for educational and practice-related purposes and who increasingly access educational activities via their mobile devices for timely decisions at the point of care.

Assessment Method

The effects of education were assessed in conjunction with Healthcare Performance Consulting, Inc. (HPC), using a Planned Change Assessment (PQA) survey. The PQA process allows for an immediate measure of activity outcomes as well as a delayed measure to identify actual behavior change (Figure 1). It also allows learners to be reminded of the program content and their intent to change 6 to 8 weeks after completing the educational intervention.

Initial Assessment

The initial survey administered upon completion of the educational activity asked:

- What will you do differently in your practice as a result of participating in this activity?
- What do you perceive as barriers to making the above-selected changes in your practice?

The survey included practice changes consistent with the learning objectives. Data from a cohort of US-practicing pulmonologists, infectious disease specialists, pediatricians, and nurses who participated in the online educational intervention were collected through 2/2/2014 and evaluated.

Follow-Up Assessment

The follow-up survey was an online assessment of the intended changes from the initial PQA questionnaire and was administered approximately 6 to 8 weeks after the launch of the activity. All completers of the initial survey (as of that date) were sent an email invitation and link to the follow-up assessment. The PCA follow-up assessment included questions about completed changes and about barriers to change that learners may have encountered in their daily practice. Use of a unique respondent identifier on both the immediate PCA and the follow-up assessment allowed for direct matching of responses to both assessments. While not all learners completed both assessments, matching those who did help reduce the chance of sampling bias when comparing the results of the assessments. Completers of the follow-up survey were invited to opt-in to the follow-up interviews.

Follow-Up Interviews

Interviews were conducted with a sample of learners recruited from attendees who opted in from the follow-up assessment. These interviews were 20 to 30 minutes in length and were conducted by telephone. Participants were asked why certain changes were selected, whether the changes were made, and how the changes took place; they were also asked to identify barriers to making the changes. These qualitative interviews were conducted to validate and clarify the selected practice changes and actual barriers to change.

RESULTS

A total of 222 US participants in the educational intervention completed the survey, which inquired about specific intended changes, and 218 (94%) indicated that they planned to make a total of 622 changes, or an average of 2.8 planned changes per participant. Of those 218 participants, 47 completed the follow-up survey 6 to 8 weeks later, 44 (94%) of whom reported making 120 changes in practice, or an average of 2.7 changes each. The remaining 3 participants (6%) indicated that they were already following best practice recommendations. Results of initial and follow-up assessment of specific changes in clinical practice and the percentage of those making each change are shown in Figures 2a and 2b. For the sample of participants who completed both the initial assessment and the follow-up assessment, a comparison of responses showed that the changes were made as intended and those that were difficult to make (Figure 3).

Barriers

Analysis showed that further education focusing on overcoming challenges to patient adherence to the CF treatment regimen and clinician concerns about antibiotic resistance when using chronic suppressive therapy is recommended (Figure 4).

Follow-Up Interviews:

Knowledge Gains:

- “I learned new information on the newer inhaled medications. I didn’t know about different formulations, powders.”
- “The emphasis on newer inhaled antibiotics and the discussion on transitioning pediatric CF patients to the new therapies.”
- “Newer antibiotic medications are assisting patients with regimens that are convenient to their lifestyle.”
- “The new guidelines for CF and the information on avoidance of transmission of infection.”
- “I learned that the inhaled form of antibiotics, with or without oral medications, for 4 weeks is a good way to treat and would make a difference. Aerosol therapy is speedier.”

Practice Changes:

- “Talking to family about getting genetic testing.”
- “The newer drugs are on our radar screen. When they are approved, I will add them to my treatment options.”
- “I plan to introduce Pseudomonas infection eradication strategies based on ENIC and other trials.”
- “I am using inhaled medications chronically. This can improve quality of life. The programs raised my consciousness about treatments for Pseudomonas and the infection’s complications to patients.”

Conclusions

The educational activities gathered in this assessment are a strong indicator of the well-designed online instructional modality prompted changes in clinical performance, and shows that a 30-minute video roundtable discussion developed as part of a curriculum to address the clinical performance gaps in CF is a successful way to effect changes in practice. The fact that 94% of learners, upon follow-up, completed changes in practice indicates that this activity was highly successful at prompting practice change, and an average of 2.7 changes per learner indicates a large impact on clinical practices. Participants were motivated to make measurable changes related to managing cystic fibrosis, and adherence to infection management guidelines and patients’ difficulty following treatment regimens that typically involve multiple therapies.

References