SUCCESS OF EDUCATIONAL INTERVENTIONS ON PULMONARY ARTERIAL HYPERTENSION MANAGEMENT

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PURPOSE

Pulmonary arterial hypertension (PAH)—a progressive and fatal disorder—is underrecognized and inadequately treated based on current evidence-based guideline recommendations. Delays in diagnosis of more than 2 years and inadequate treatment have been identified from the REVEAL registry.1 A study was conducted to determine if online educational interventions could improve competence and performance of pulmonologists and cardiologists with respect to PAH management.

METHODS

• A cohort of practicing pulmonologists and cardiologists in the United States was identified prior to the launch of a series of 4 educational interventions designed to address gaps in the care of patients with PAH.1,2

• The outcomes survey method to measure performance included knowledge- and case-based multiple-choice questions derived from current evidence-based recommendations. The domains assessed included diagnosis, pathophysiology, evidence-based treatment strategies, and monitoring.

• Confidentiality of survey respondents was maintained and responses were de-identified and aggregated prior to analysis.

• Non-practicing clinicians and clinicians not involved in the care of patients with PAH were excluded from the study.

• Responses to questions associated with the clinical cases and aligned to individual interventions were collected and compared with baseline data (collected prior to participation in educational interventions) in order to assess the effect of education on the practice patterns of participants.

• Chi-square tests were conducted to detect differences between the baseline and the post-education assessment responses among pulmonologists and cardiologists.

RESULTS

A total of 455 participants—including 277 pulmonologists and 178 cardiologists—were assessed in this study. Compared with the baseline assessment, significant improvements were found as a result of participation in the educational interventions, specifically:

• More cardiologists selected right heart catheterization to diagnose PAH (73% post-education vs 53% baseline, P = .01) and identified the correct hemodynamics for a patient at high risk (92% post-education vs 75% baseline, P = .01).

• More pulmonologists correctly identified a positive vasodilator test as the correct hemodynamics for a patient at high risk (91% post-education vs 82% baseline, P = .01). The baseline cut-off mPAP value to diagnose PAH was 30 mm Hg to ≤ 40 mm Hg (85% post-education vs 71% baseline, P = .01). A decrease in mean pulmonary arterial pressure (mPAP) by at least 10 mm Hg was associated with a 22% more cardiologists (P = .04) and 19% more pulmonologists (P = .04) correctly identified 25 mm Hg as the cut-off mPAP value to diagnose PAH.

• 20% more pulmonologists and 19% more cardiologists recognized the action of phosphodiesterase type 5 (PDE-5) inhibitors in PAH (73% post-education vs 54% baseline, P = .04) and identified the correct hemodynamics for a patient at high risk (92% post-education vs 75% baseline, P = .01).

• More pulmonologists correctly identified a positive vasodilator test as a decrease in mean pulmonary arterial pressure (mPAP) by at least 10 mm Hg to ≤ 40 mm Hg (85% post-education vs 71% baseline, P = .01) and identified the correct hemodynamics for a patient at high risk (91% post-education vs 82% baseline, P = .01). The baseline cut-off mPAP value to diagnose PAH was 30 mm Hg to ≤ 40 mm Hg (85% post-education vs 71% baseline, P = .01). A decrease in mean pulmonary arterial pressure (mPAP) by at least 10 mm Hg was associated with a 22% more cardiologists (P = .04) and 19% more pulmonologists (P = .04) correctly identified 25 mm Hg as the cut-off mPAP value to diagnose PAH.

CONCLUSIONS AND CLINICAL IMPLICATIONS

This study demonstrated the success of well-designed, targeted, online educational interventions in improving the practice patterns of pulmonologists and cardiologists in the assessment and management of patients with PAH. Statistically significant improvements in several domains of PAH management may result in improvements in patient care and outcomes.

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