Independent Online Medical Education Significantly Increases Physician Knowledge and Confidence Regarding Real-World Data for COVID-19 Antiviral Therapy in High-Risk Patients

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BACKGROUND

Despite immunization against COVID-19, a considerable proportion of individuals are at high risk of severe disease due to immunosuppression, the presence of comorbidities, or treatment that they are receiving. Several antivirals are available to prevent severe disease in these individuals. We assessed if an online independent medical education activity consisting of a 30-minute discussion between two leading experts could improve the knowledge and confidence of infectious disease (ID) specialists and pulmonologists regarding real-world data on the efficacy and safety of COVID-19 antivirals for patients at high risk of severe disease.

METHODS

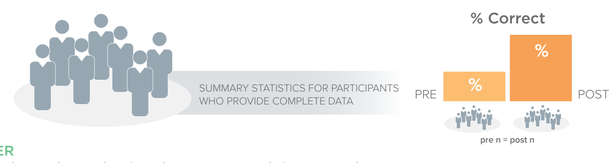
This independent medical education activity was 30-minute video-based discussion where 2 experts exchange viewpoints.

ID Specialists (n = 59)

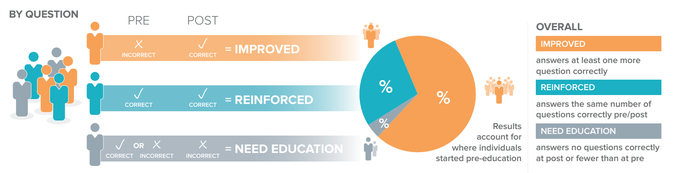
Pulmonologists (n = 39)

How to Read the Linked Learner Assessment

OUTCOMES COMPLETERS
Each individual completed BOTH the pre and post-education questions – *SAME individuals pre and post-education*



LINKED LEARNER
Each individual tracked pre and post-education – *Learners serve as their own controls*

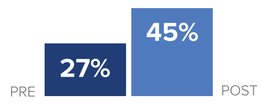


RESULTS

OVERALL

ID Specialists (n = 59)

AGGREGATED RESULTS



COHEN'S d

0.75

EFFECT SIZE	EDUCATIONAL IMPACT
< .20	MODEST
.20 - .49	SMALL
.5 - .79	**MODERATE**
≥0.80	LARGE

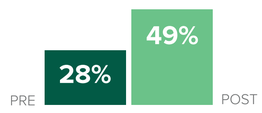
CHI-SQUARE TEST

***P* <.001**

SIGNIFICANCE (*P* <.05)

Pulmonologists (n = 39)

AGGREGATED RESULTS



COHEN'S d

0.91

EFFECT SIZE	EDUCATIONAL IMPACT
< .20	MODEST
.20 - .49	SMALL
.5 - .79	MODERATE
≥0.80	**LARGE**

CHI-SQUARE TEST

***P* <.001**

SIGNIFICANCE (*P* <.05)

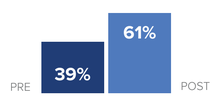
QUESTION 1 RESULTS

The question led to significant knowledge gains for both specialties regarding the tolerability profile of COVID-19 antivirals.

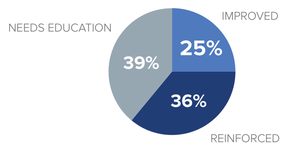
QUESTION: In 3 separate clinical trials assessing adverse events (AEs) experienced by patients receiving either remdesivir, molnupiravir, or nirmatrelvir-ritonavir, which of the following agents was associated with AEs similar to those found with placebo?
(Correct Answer: Molnupiravir)

ID Specialists (n = 59)

AGGREGATED RESULTS



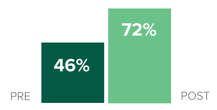
LINKED LEARNING RESULTS



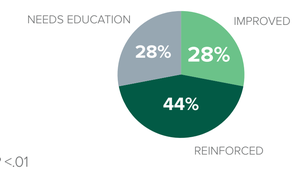
P <.01

Pulmonologists (n = 39)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



P <.01

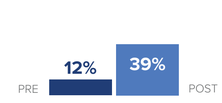
QUESTION 2 RESULTS

This question revealed both groups of physicians have very low baseline knowledge regarding effectiveness of antiviral in specific patient populations. Despite this, the education led to significant knowledge gains for both groups.

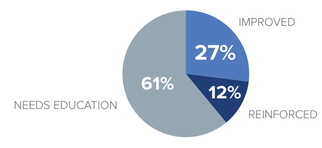
QUESTION: A subgroup analysis of 47,437 patients who received nirmatrelvir-ritonavir found that the effectiveness of nirmatrelvir-ritonavir in reducing the risk of severe COVID-19 or mortality was highest in patients with which of the following morbidities?
(Correct Answer: Neurological disease)

ID Specialists (n = 59)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



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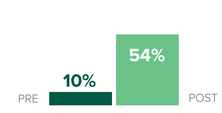
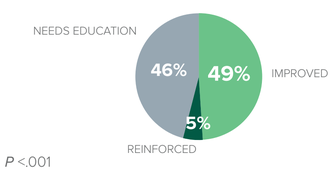
Pulmonologists (n = 39)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



P <.001

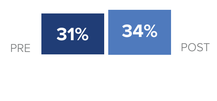
QUESTION 3 RESULTS

This question did not result in significant knowledge gains for each group with a lower proportion of pulmonologists answering the question correctly post-activity.

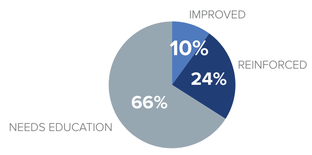
QUESTION: A real-world retrospective cohort of 40,776 patients with COVID-19 not requiring supplemental oxygen on hospitalization found that early molnupiravir was associated with which of the following clinical outcomes?
(Correct Answer: Significantly lower risk of all-cause mortality)

ID Specialists (n = 59)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



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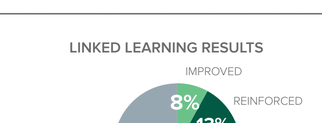
Pulmonologists (n = 39)

AGGREGATED RESULTS

LINKED LEARNING RESULTS



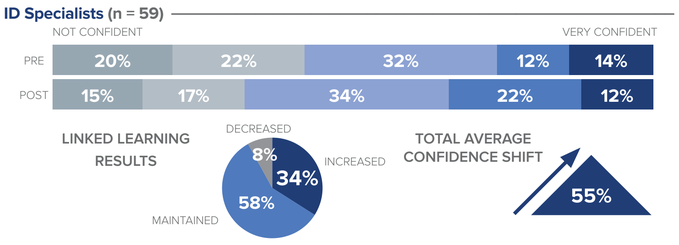
P =.317

CONFIDENCE ANALYSIS

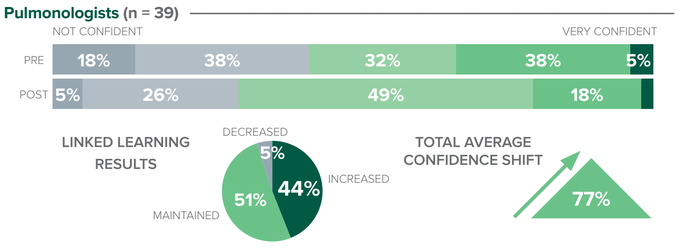
34% of ID specialists and 44% of pulmonologists had a measurable improvement in confidence regarding their ability to prescribe and manage patients at risk of severe COVID-19 with antivirals. Following education, the confidence shift for ID physicians (55%) and pulmonologists was high (77%).

QUESTION: How confident are you right now in your ability to prescribe and manage patients at risk of severe COVID-19 with antivirals? (Select ranking from 1 [Not confident] to 5 [Very confident])

ID Specialists (n = 59)



Pulmonologists (n = 39)



CONCLUSIONS

- With multiple antivirals available to reduce the possibility of severe disease in high-risk patients it is important that physicians are aware of the real-world evidence to enable the selection of the most appropriate management strategy
- However, despite demonstrated real-world efficacy, antivirals for the prevention of COVID-19 disease progression are underutilised
- This education highlighted several knowledge gaps regarding real-world data awareness
- However, online medical education significantly improved physician knowledge of real-world data and pulmonologists confidence in managing these patients with antivirals
- These findings highlight the importance of independent online medical education to facilitate best practice and reduce COVID-19 disease burden in high-risk patients

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