Effect of Online Education on Physician Knowledge and Confidence Regarding the Impact of Inflammation and the Failure to Recover CD4 T Cell Counts in People Living With HIV

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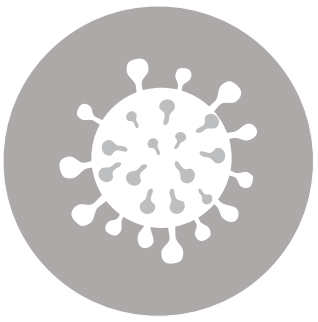
POSTER # P143

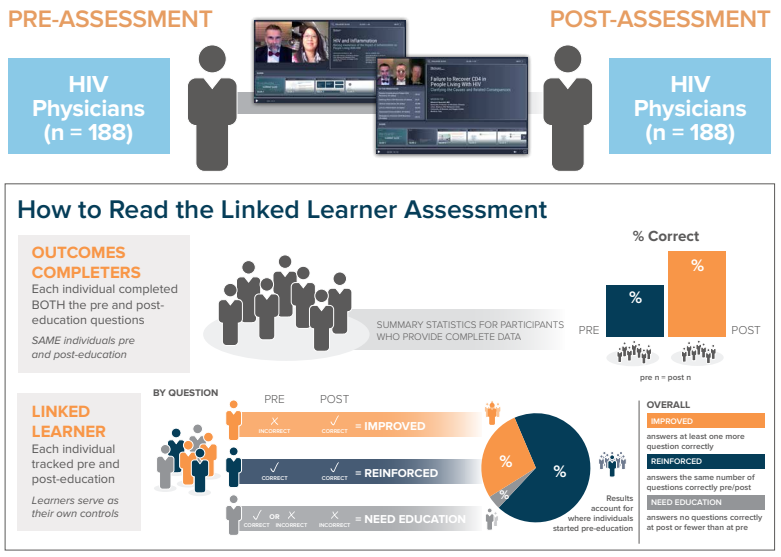
BACKGROUND



People living with HIV (PLWHIV) experience persistent inflammation due to HIV itself, other chronic co-infections and comorbidities such as obesity[1]. Multiple various triggers contribute to low grade chronic inflammation. Additionally, a subset of PLWHIV also fail to recover CD4 T cell counts despite virological suppression due to factors such as poor adherence to antiretrovirals, inflammation, or lymph node fibrosis[2]. We assessed whether 2 online independent medical education activities could improve the knowledge and confidence of HIV physicians regarding multiple aspects of chronic immune dysfunction and inflammation in PLWHIV and the relationship between the failure to recover CD4 T cell counts and the interaction between the immune system and morbidity and mortality.

METHODS

These 2 activities included a 15 minute exchange of viewpoints between two leading experts[3] and a 30-minute round table discussion between three key opinion leaders[4]. The activities were available on Medscape from 11/23/2021 and 1/4/2022 data were collected between 1/21/2022 to 3/1/2022.

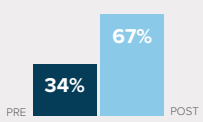


RESULTS

HIV and Inflammation: Raising Awareness of the Impact of Inflammation on People Living With HIV

HIV Physicians (n = 99)

AGGREGATED RESULTS



COHEN'S d: **0.93**

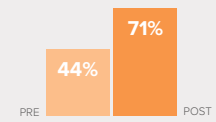
EFFECT SIZE	EDUCATIONAL IMPACT
< .20	MODEST
.20 - .49	SMALL
.5 - .79	MODERATE
≥0.80	LARGE

CHI-SQUARE TEST: ***P* <.001** SIGNIFICANCE (*P* <.05)

Failure to Recover CD4 in People Living With HIV: Clarifying the Causes and Related Consequences

HIV Physicians (n = 89)

AGGREGATED RESULTS



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≥0.80	LARGE

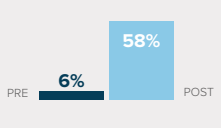
CHI-SQUARE TEST: ***P* <.001** SIGNIFICANCE (*P* <.05)

QUESTION 1 RESULTS

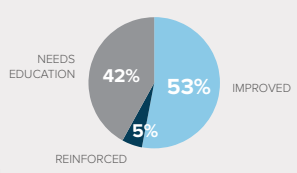
The activity resulted in large and significant knowledge gains regarding impact of the failure to recover CD4 T-cell counts has morbidity and mortality in PLWHIV

HIV Physicians (n = 99)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



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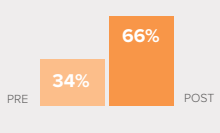
A CD4 nadir cell count of less than 350 cells/μL is associated with a reduction in life expectancy in PLWH. On average, by how many years does life expectancy decrease? (Correct Answer: 20)

QUESTION 2 RESULTS

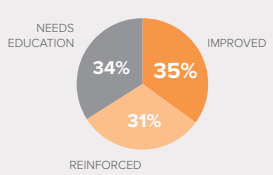
A significant increase in knowledge regarding a relationship between chronic inflammation in PLWHIV and comorbidities was found for HIV specialists following this activity.

HIV Physicians (n = 89)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



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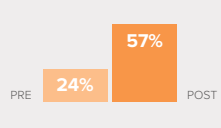
In what manner does increased visceral adipose tissue (VAT) contribute to inflammation-related comorbidities, such as cardiovascular disease and insulin resistance, in PLWHIV? (Correct Answer: Increases ectopic fat)

QUESTION 3 RESULTS

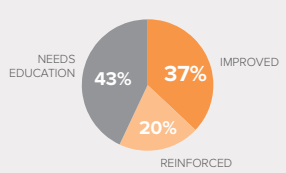
Education significantly improved HIV specialist knowledge regarding the use of interventions to manage comorbidities associated with inflammation

HIV Physicians (n = 89)

AGGREGATED RESULTS



LINKED LEARNING RESULTS



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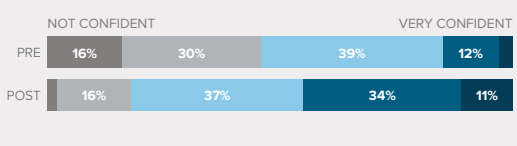
Geriatric syndromes and frailty in PLWHIV have been associated with inflammation and immunometabolic disorders. Which of the following has been identified as a strong predictor of frailty in PLWHIV? (Correct Answer: Non-alcoholic fatty liver disease [NAFLD] with fibrosis)

CONFIDENCE ANALYSIS

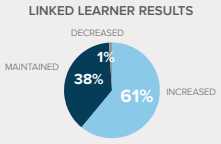
For the 99 HIV specialists who participated in the activity *Failure to Recover CD4 in People Living With HIV: Clarifying the Causes and Related Consequences*, there was a 64% increase in physician confidence concerning their ability to discuss with your HIV-positive patient the implications of low CD4 T-cell counts on morbidity and mortality.

HIV Physicians (n = 99)

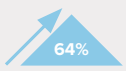
How confident are you right now in your ability to discuss with your HIV-positive patient the implications of low CD4 T-cell counts on morbidity and mortality? (Select ranking from 1 [Not confident] to 5 [Very confident])



LINKED LEARNER RESULTS



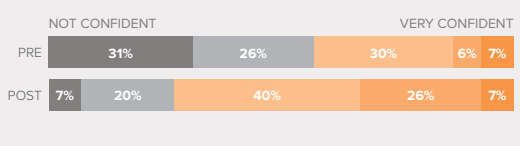
AVERAGE CONFIDENCE SHIFT FOR THOSE WHO INCREASED CONFIDENCE



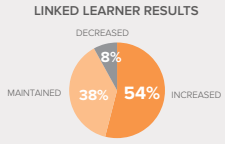
Large increases in HIV physician confidence of 88% in their ability to manage inflammation-related comorbidities in PLWHIV was also reported in 89 HIV physicians who participated in the activity that aimed to raise awareness of the impact of inflammation on PLWHIV.

HIV Physicians (n = 89)

How confident are you right now in your ability to manage inflammation-related comorbidities in PLWHIV? (Select ranking from 1 [Not confident] to 5 [Very confident])



LINKED LEARNER RESULTS



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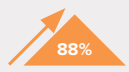

CONCLUSIONS

- **Online medical education significantly improved HIV specialist knowledge and confidence on the consequences of the failure to recover CD4 T cell counts and the impact that inflammation has on morbidity and mortality in PLWHIV**
- **Increases in the awareness of the clinical significance related to the failure to recover CD T cell counts and ongoing chronic inflammation have on the development of comorbidities, overall health, and mortality in PLWHIV are of particular importance for HIV physicians, so they are able to adopt preventive or management interventions to tackle these factors**
- **An increase in HIV physician confidence regarding their ability to communicate with patients the implications of low CD4 T-cell counts on morbidity and mortality is of importance and may contribute to increased adherence to antiretroviral therapy**
- **Furthermore, increases in physician confidence in their ability to manage inflammation-related comorbidities in PLWHIV may lead to better health outcomes for aging PLWHIV**

ACKNOWLEDGEMENTS

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4. www.medscape.org/viewarticle/965495

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