

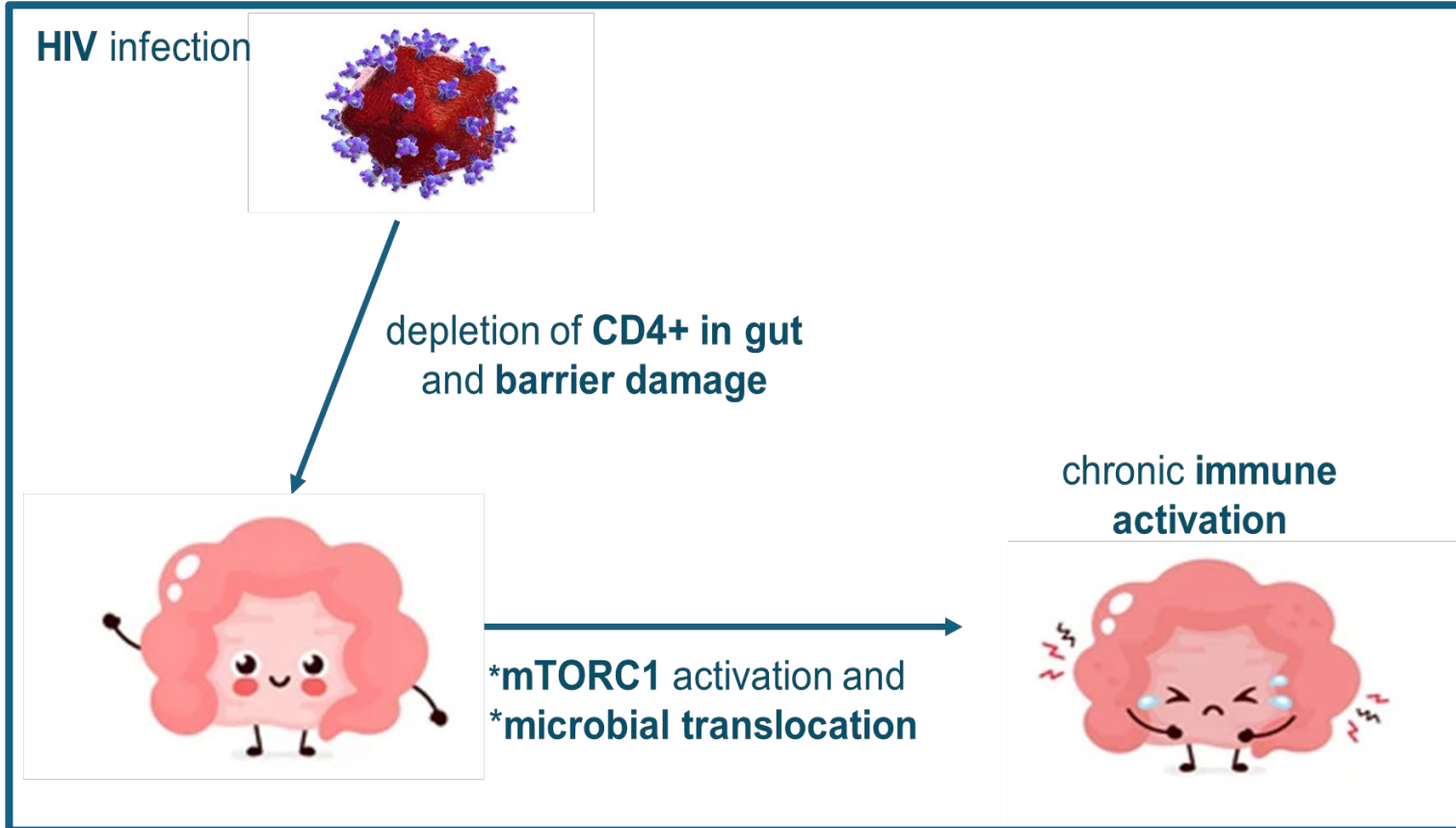
# The impact of amino acid & micronutrient supplementation on gut HIV reservoir in the AMAZE trial.

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# Background

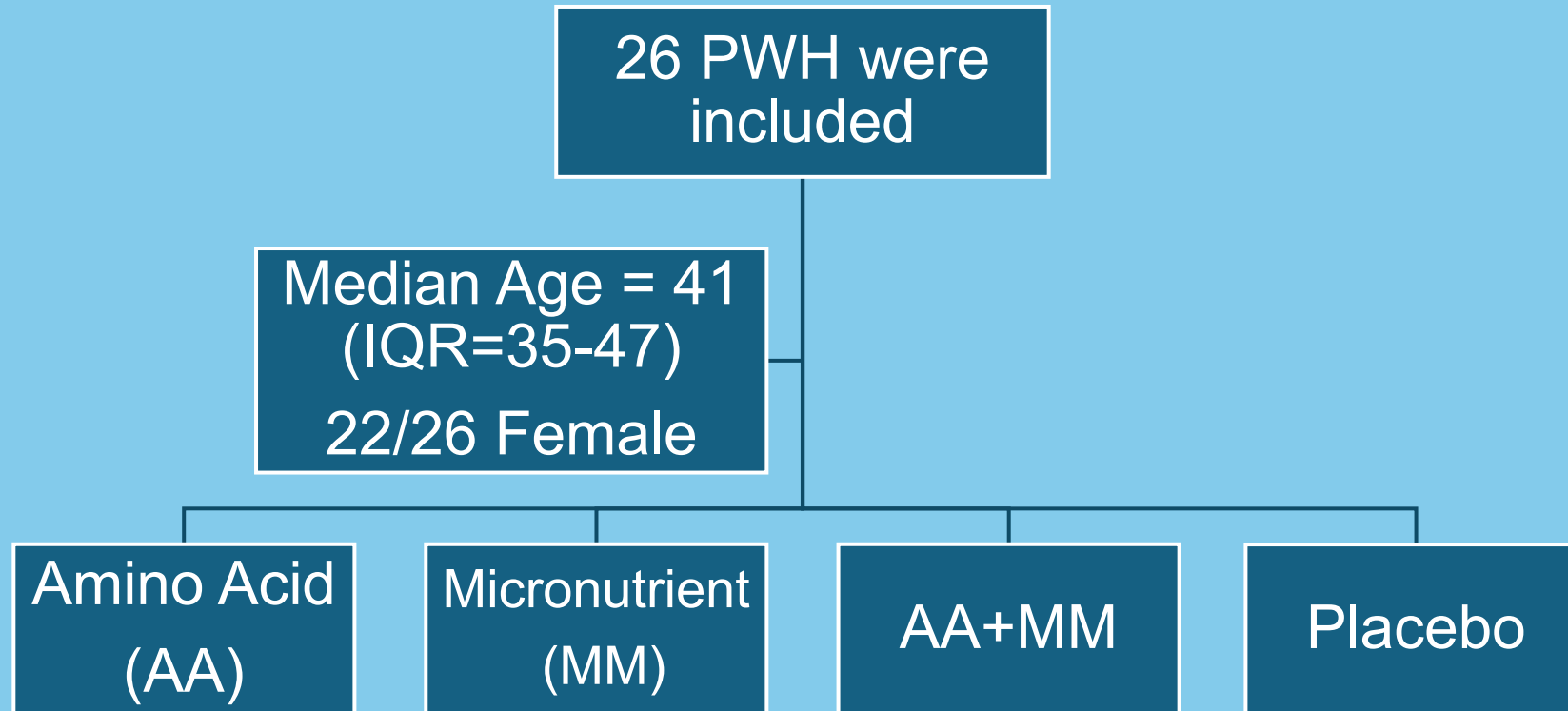


Nutritional supplements have been investigated for their potential impact on immune activation.

\***mTORC1** is a central regulator of cellular metabolism and controls susceptibility of CD4 cells to HIV.

\***Microbial Translocation** is the passage of microbes from GI tract to extraintestinal sites and is linked to immune activation in HIV.

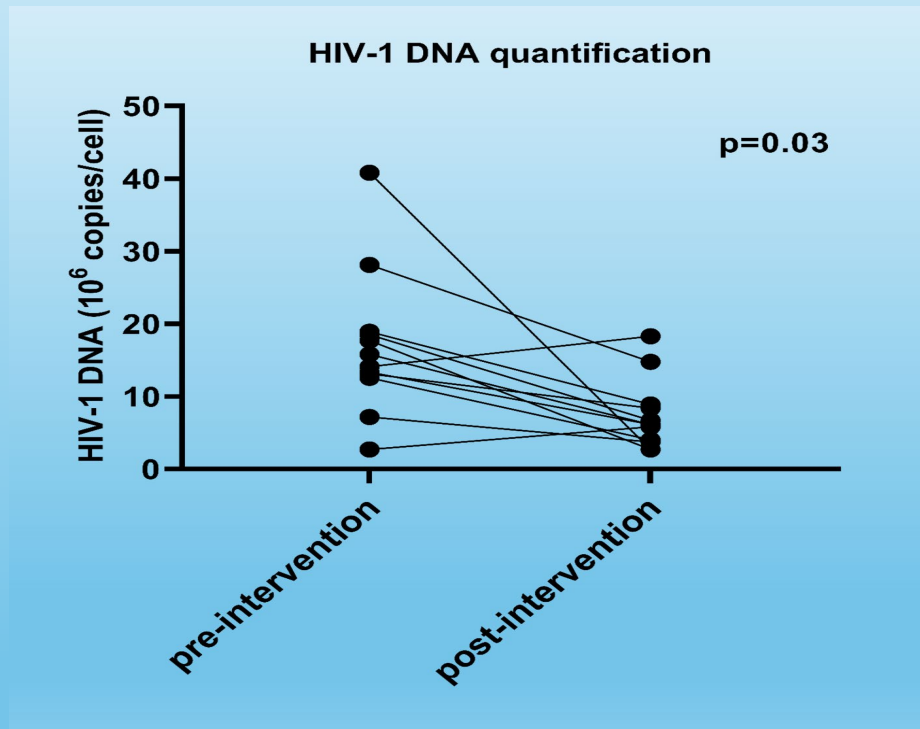
We examined **impact of nutritional supplementation** in PWH from **AMAZE trial**, which originally investigated gut barrier dysfunction in Zambian adults with environmental enteropathy.



**Total gut HIV DNA, gut mTORC1 activity** and markers of gut **microbial translocation** (sCD14, endotoxin gut barrier leak) were measured in all participants.

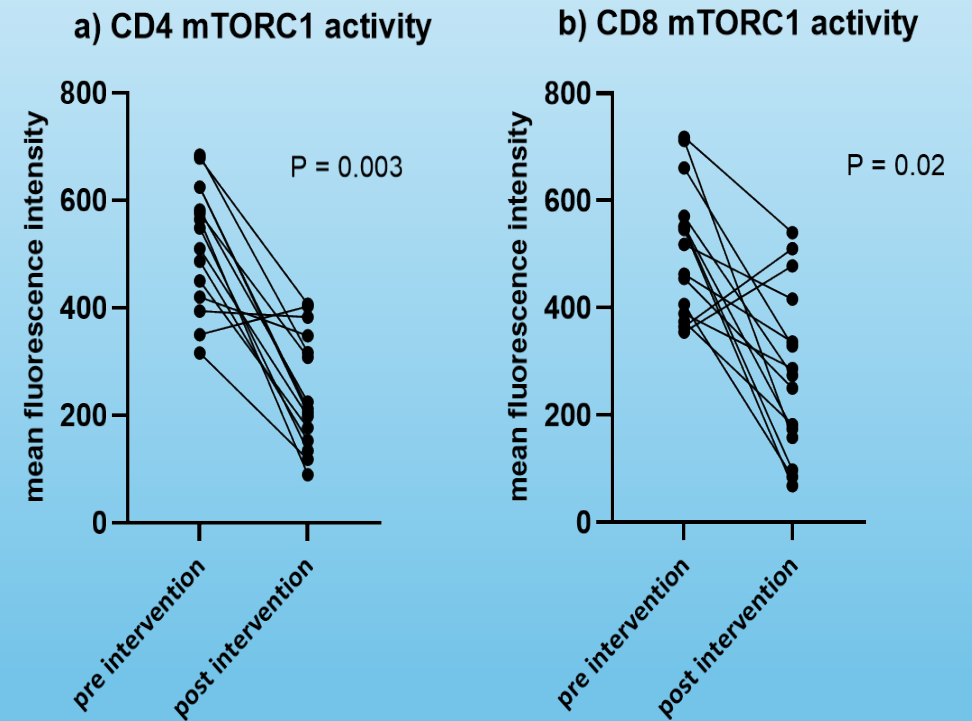
# AA+ MM supplementation reduce gut HIV DNA and mTORC1 activation levels in PHW.

## Nutritional supplements reduce gut HIV DNA levels.



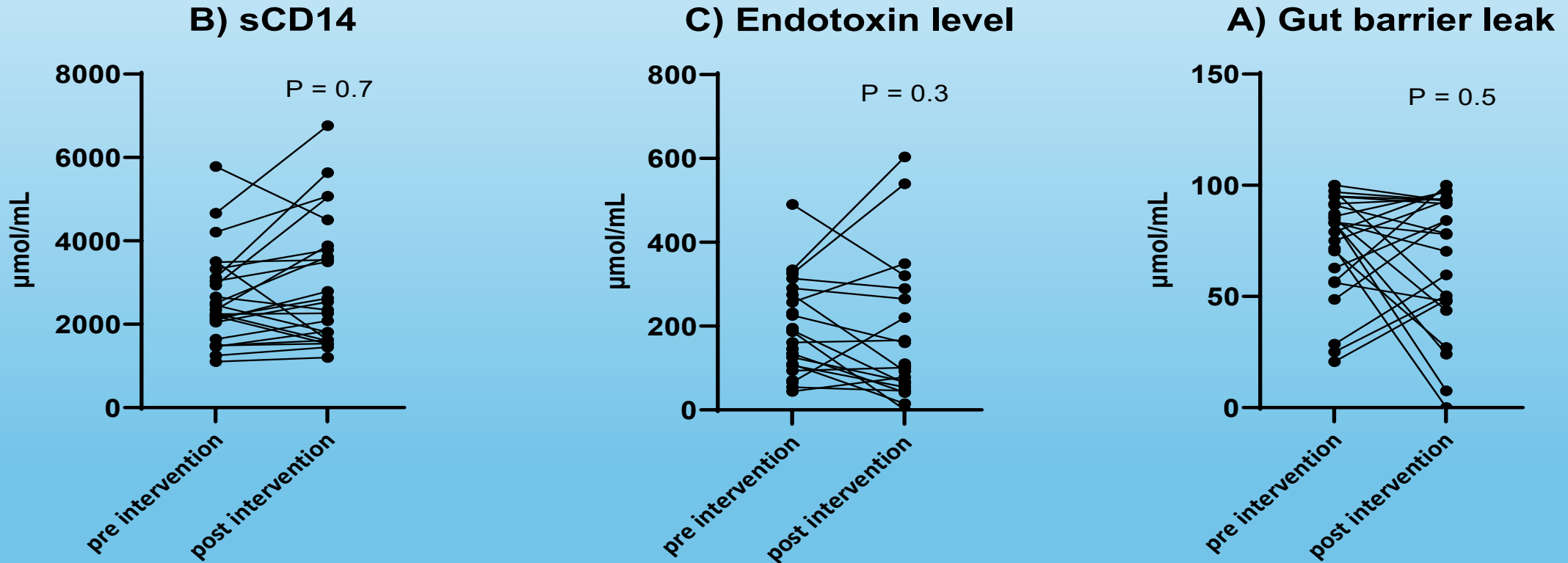
**Figure 1.** Gut HIV DNA declines ( $p=0.03$ ) significantly after supplementation.

## Nutritional supplements reduce gut mTORC1 activation.



**Figure 2.** CD4 and CD8 mTORC1 activity significantly declines after supplementation.

## Nutritional supplementation does not impact markers of microbial translocation.



**Figure 3.** No difference in sCD14, endotoxin or gut barrier leak was observed between pre-intervention and post-intervention.

# Conclusions

- This work suggests a potential impact of **AA+MM supplementation** on **gut HIV DNA** and **mTOR activation** in PWH.
- Markers of **microbial translocation** were unaffected by supplementation.
- These findings support further investigation of mTORC modulators in PWH.

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