









VITamin D for AdoLescents with HIV to reduce musculoskeletal morbidity and ImmunopaThologY

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Background

- Global scale up of antiretroviral therapy (ART) has improved survival in children.
- Longstanding HIV infection is associated with growth failure, stunting and pubertal delay, which manifests in adolescents.
- This trial aims to establish whether supplementation with vitamin D₃ and calcium carbonate improves musculoskeletal health among peripubertal children aged 11-19 years living with HIV.

Methods

- A phase III individually randomised, double blinded, placebo-controlled trial of weekly vitamin D plus daily calcium carbonate for 48 weeks is being conducted in Zimbabwe and Zambia.
- The primary outcome is total body less head bone mineral content adjusted for height Z-score.
- Exploratory mechanistic studies (immunological, microbiome, radiological) will investigate effect of the intervention on musculoskeletal growth.



Fig 1: Grip strength



Fig 2: Full body DEXA scan



Fig 3: Lumbar spine DEXA scan

Progress so far

- 529/840 (71%) participants enrolled
- 51.2% females, 46.5% stunted
- Median age 15 (IQR 14-18) years
- Medium time on ART 13 (IQR 10-15) years
- No side effects reported

Challenges

- Delays in trial start due to delays in receiving drugs.
- Delay in participant recruitment due to guardian not present – sensitise eligible individuals to attend with guardians.





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