Effect of in-utero HIV and ART exposure on growth during infancy

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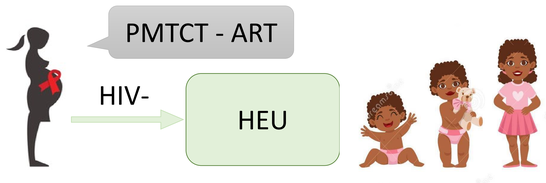
Ashenafi S. Cherkos[1], Sylvia M. LaCourse[2], John Kinuthia[3,4], Jerphason Mecha[3], Daniel A. Enquobahrie[2], Jaclyn N. Escudero[2], Grace John-Stewart[2]
[1]University of North Texas Health Science Center, Fort Worth, Texas, USA; [2]University of Washington, Seattle, WA, USA; [3]Research and Programs, Kenyatta National Hospital, Nairobi, Kenya; [4]Department of Obstetrics and Gynaecology, Kenyatta National Hospital, Nairobi, Kenya.

BACKGROUND

Exposure to HIV and antiretroviral therapy (ART) *in utero* may influence infant growth and development.

We compared growth and development in HIV-exposed uninfected (HEU) to HIV-unexposed (HUU) infants in a recent cohort.



METHODS

- Data source: a prospective birth cohort of women & their infants with and without HIV infection in Western Kenya.
- Women were enrolled during pregnancy and followed up until 24 months postpartum.
- Analyses (184 HEU vs 171 HUU)
  - multivariable linear mixed-effects models to compare longitudinal growth rates
  - multivariable linear regression to compare overall development (assessed with caregiver-reported early development instruments [CREDI]) between HEU and HUU children.

RESULTS

HIV-exposed uninfected children did not differ significantly from HIV-unexposed uninfected in growth or development (p>0.05 for all).

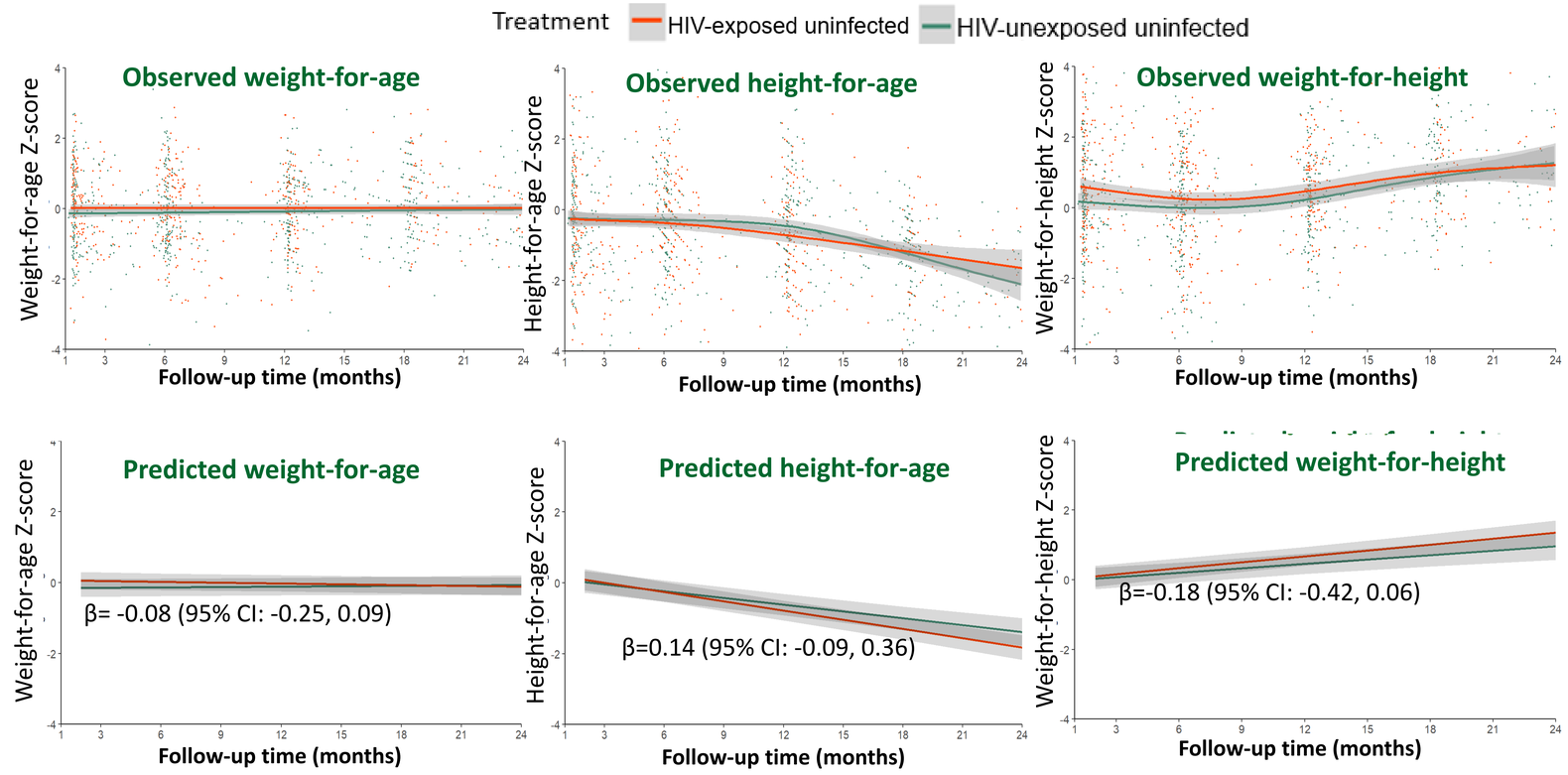


Figure: Scatter plots of change in observed and adjusted WAZ, HAZ, and WHZ over time by HIV exposure

- **In the combined HEU/HUU children cohort, higher maternal education was associated with significantly better growth and development: WAZ (β=0.18 [95% CI:0.01, 0.34]), HAZ (β=0.26 [95% CI: 0.04, 0.48], and development (β=0.24 [95% CI: 0.02, 0.46]).**
- **Breastfeeding was associated with significantly better HAZ (β=0.42 [95% CI: 0.19, 0.66]) and development (β=0.31 [95% CI: 0.08, 0.53])**

CONCLUSIONS

- **HEU children had a similar growth trajectory and development to HUU children.**
- **Breastfeeding and maternal education improved weight, height, and overall development of children irrespective of maternal HIV status.**

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