

HIV antibody detection in children who started antiretroviral treatment in infancy

Louise Kuhn, Diana Schramm , Stephanie Shiau, Renate Strehlau, Maria Paximadis, Francoise Pinillos, Karl Technau, Leigh Martens, Ashraf Coovadia, Elaine Abrams, Adrian Puren, Caroline Tiemessen

**Mailman School of Public Health, Columbia University
National Institute for Communicable Diseases, &
Empilweni Service and Research Unit, Rahima Moosa
Mother and Child Hospital, Johannesburg, South Africa**



Background

- HIV antibody tests usually are considered diagnostic beyond infancy
- Reports of treated HIV-infected children having negative HIV antibody tests
- Can lead to confusion in the clinical setting
- Frequency in clinical populations is unknown



Objective

To determine the frequency of negative HIV antibody test results in a well-defined population of HIV-infected children suppressed on antiretroviral therapy (ART)



Methods

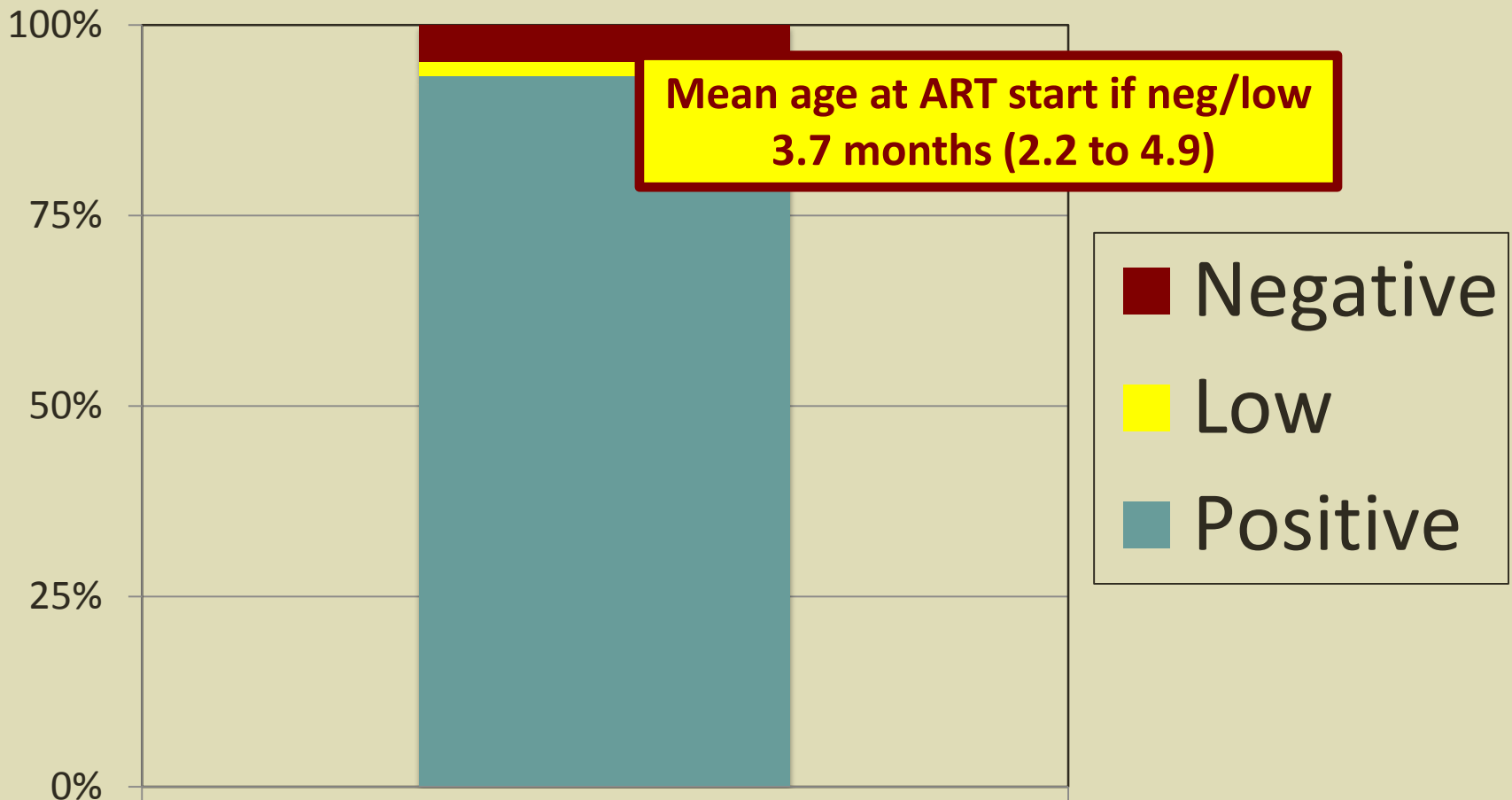
- 104 HIV-infected children
- Enrolled in trial in Johannesburg, South Africa
- Under 15 months when started ART
- Now 3 to 6 years old suppressed (<50 copies/ml)
- Tested with ELISA (Genescreen™ HIV1/2 version 2; Biorad)

Started ART < 15m

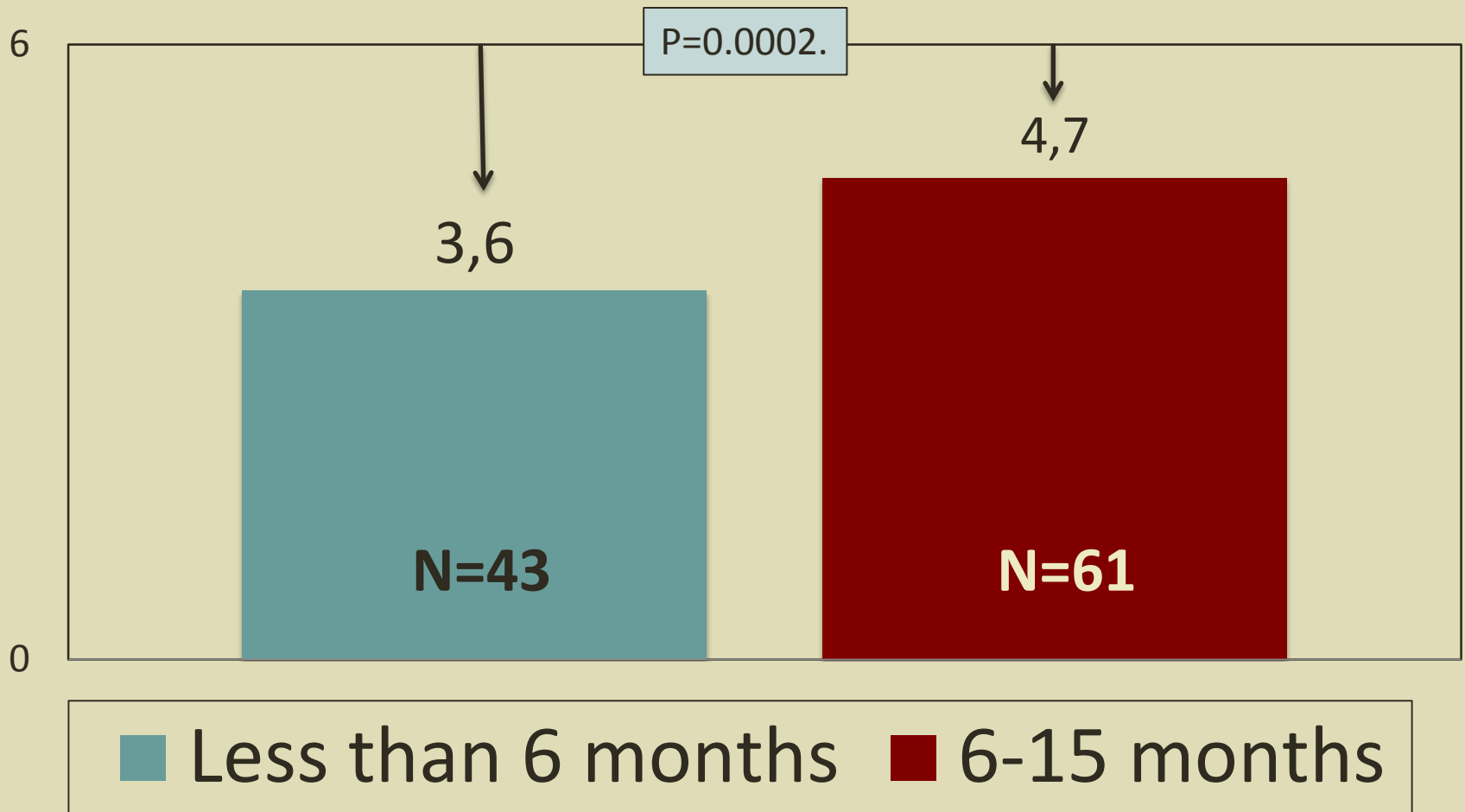
Followed 3-5 years

Tested HIV Ab

HIV antibody in 104 children started ART mean age of 8 months currently suppressed on ART for mean 5 years



Mean HIV antibody optical density (OD) by age at ART start



Updated Methods

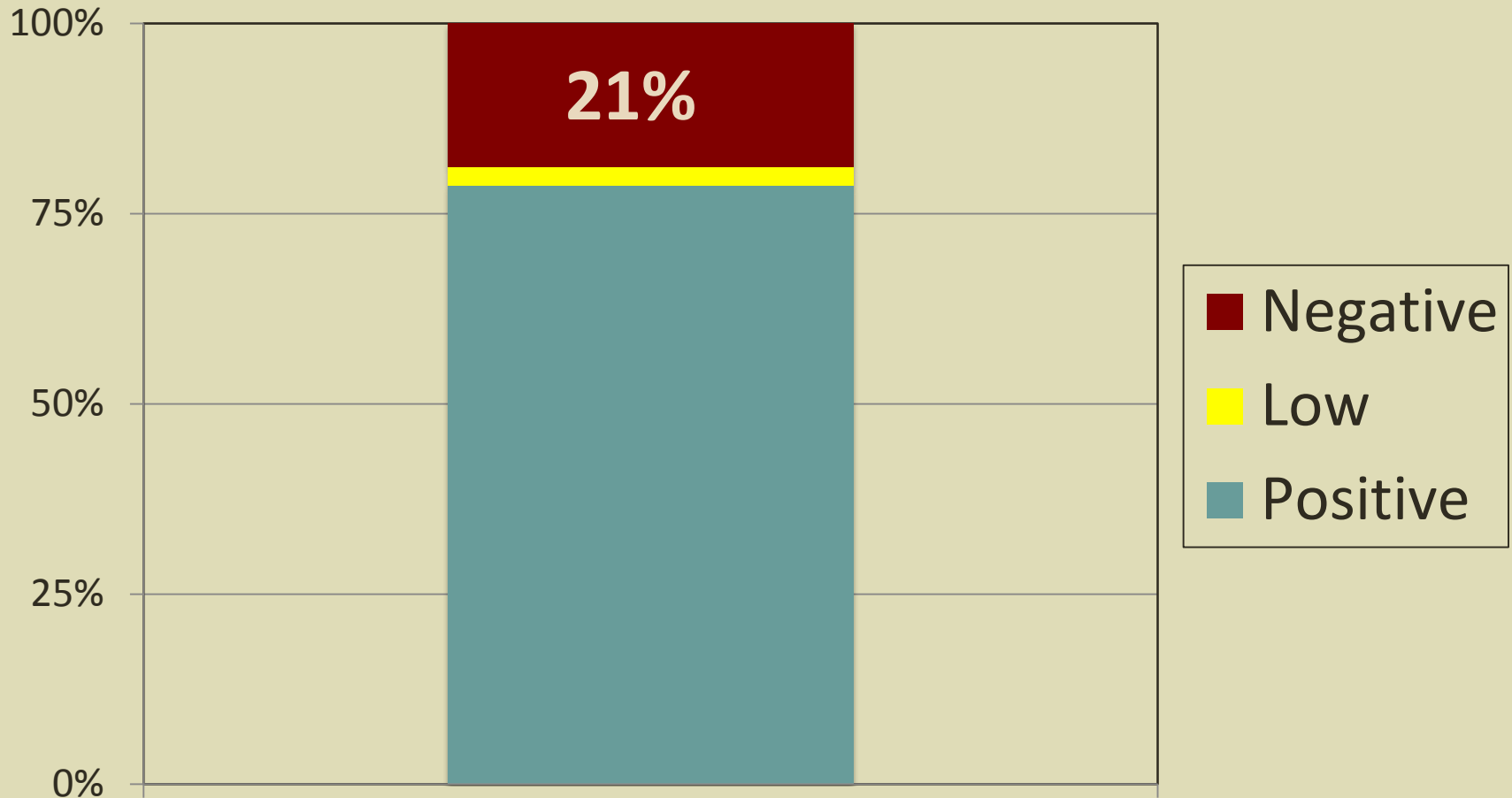
- Included additional 122 HIV-infected children
- Enrolled in trial in Johannesburg, South Africa
- Under 6 months when started ART
- Now 3 to 6 years old suppressed (<50 copies/ml)
- Tested with ELISA (Genescreen™ HIV1/2 version 2; Biorad)

Started ART < 15m

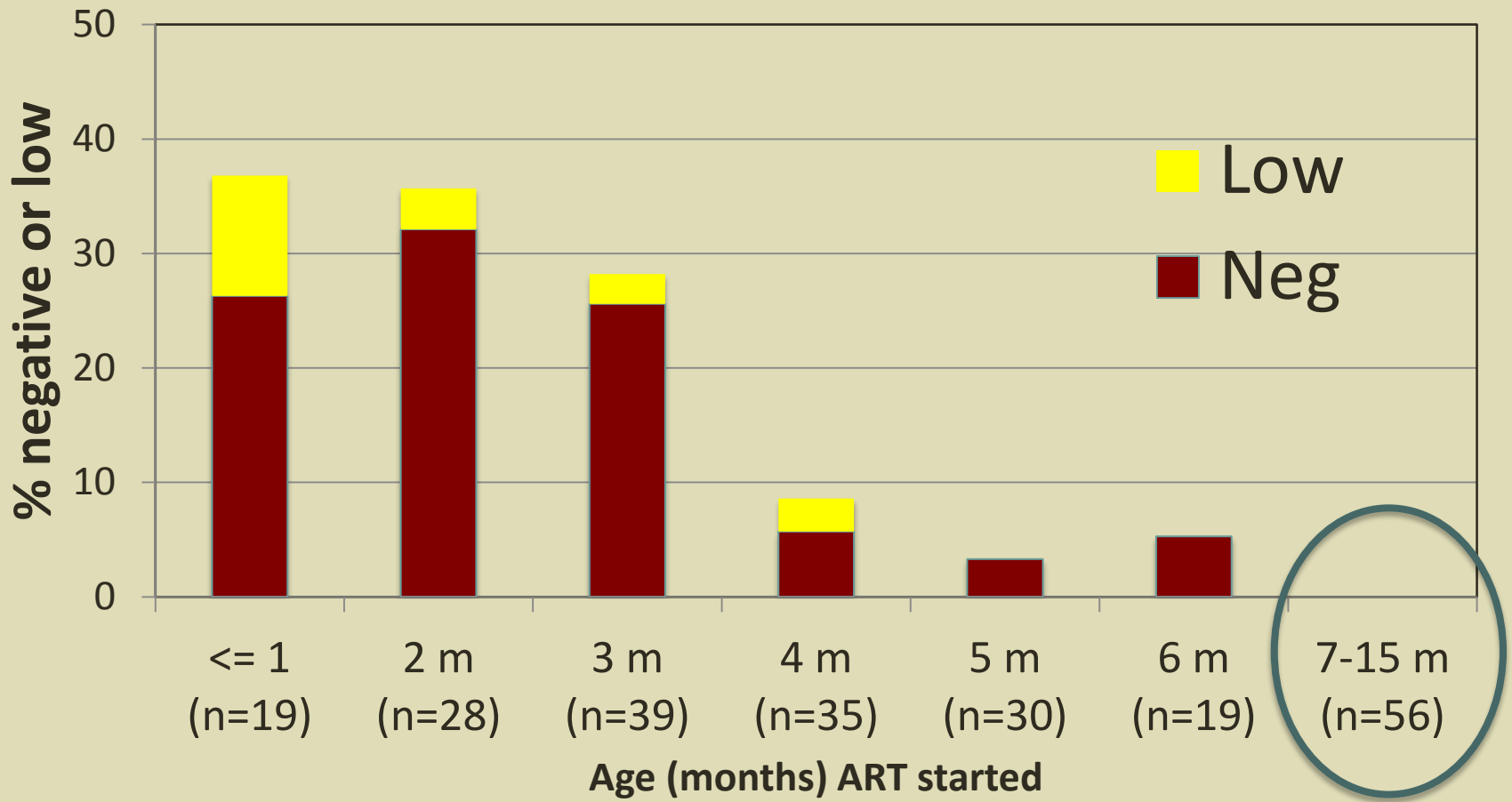
Followed 3-5 years

Tested HIV Ab

**HIV antibody in 122 children started ART
mean 3.9 months (range 3 wks to 6.9 m)
currently suppressed on ART for mean 5 years**



HIV Antibody status in 226 children currently suppressed on ART by age at ART start



Conclusions

- ~30% HIV Ab neg if ART start <3 months of age
- ~5% HIV Ab neg if ART start 4-6 months of age
- Use of standard Ab tests in early treated children can lead to confusion
- Early ART may influence ontogeny of Ab response
 - consequences for viral reservoir needs further research
- Earlier ART may have several advantages necessitating earlier infant diagnosis than is currently routine





Acknowledgments

Neverest Study Team

National Institute for Communicable
Diseases

Eunice Kennedy Shriver, National Institute of
Child Health and Human Development

HD61255

