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Gender Differences and the Effect of Pregnancy on Antiretroviral Treatment Outcomes amongst Adolescents in South Africa

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Background

- Adolescence is an important age group for HIV care and treatment programs, as adolescents have a high rate of HIV acquisition, and vertically infected children are now transitioning into adolescence.
- AIDS-related mortality in adolescents has increased by about 50% between 2005-2012 (compared with a 30% decrease amongst all other age groups).
- 80% of adolescents newly infected with HIV are adolescent girls.
- Adolescents receiving ART are at increased risk for poor adherence and having an unsuppressed viral load.
- Little data comparing gender differences, or the effect of pregnancy on ART outcomes during adolescence is available.



Objectives

- To describe gender differences in the baseline characteristics of adolescents (aged 9-19 years) starting ART at routine facilities in South Africa.
- To compare ART outcomes between genders after starting treatment.

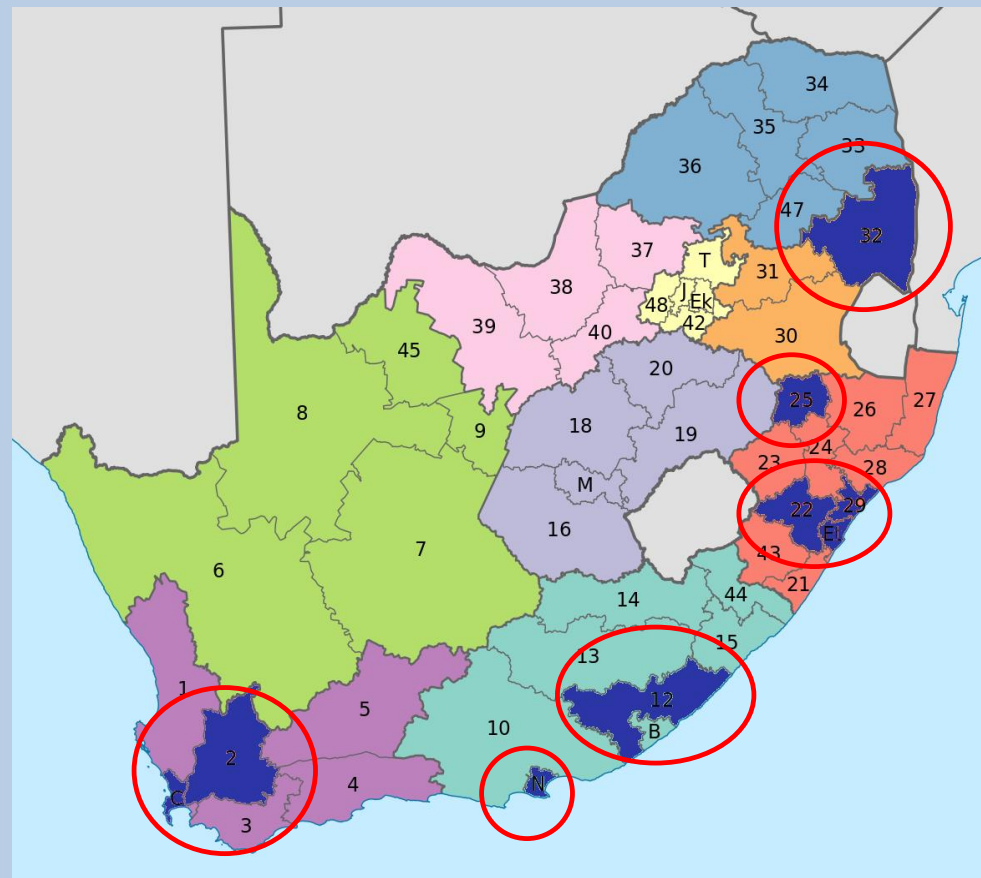
Methods

Routine data from 82 public facilities supported by Kheth'Impilo in four provinces were collected.

Kheth'Impilo supports the DOH including supporting HIV service delivery, general health system strengthening initiatives and technical assistance.

ART-naive adolescents starting ART between 2004-2011 were included.

Outcomes: mortality, loss to follow-up, viral suppression (<400 copies/ml), confirmed viral failure (2 consecutive viral loads >1000 copies/ml).

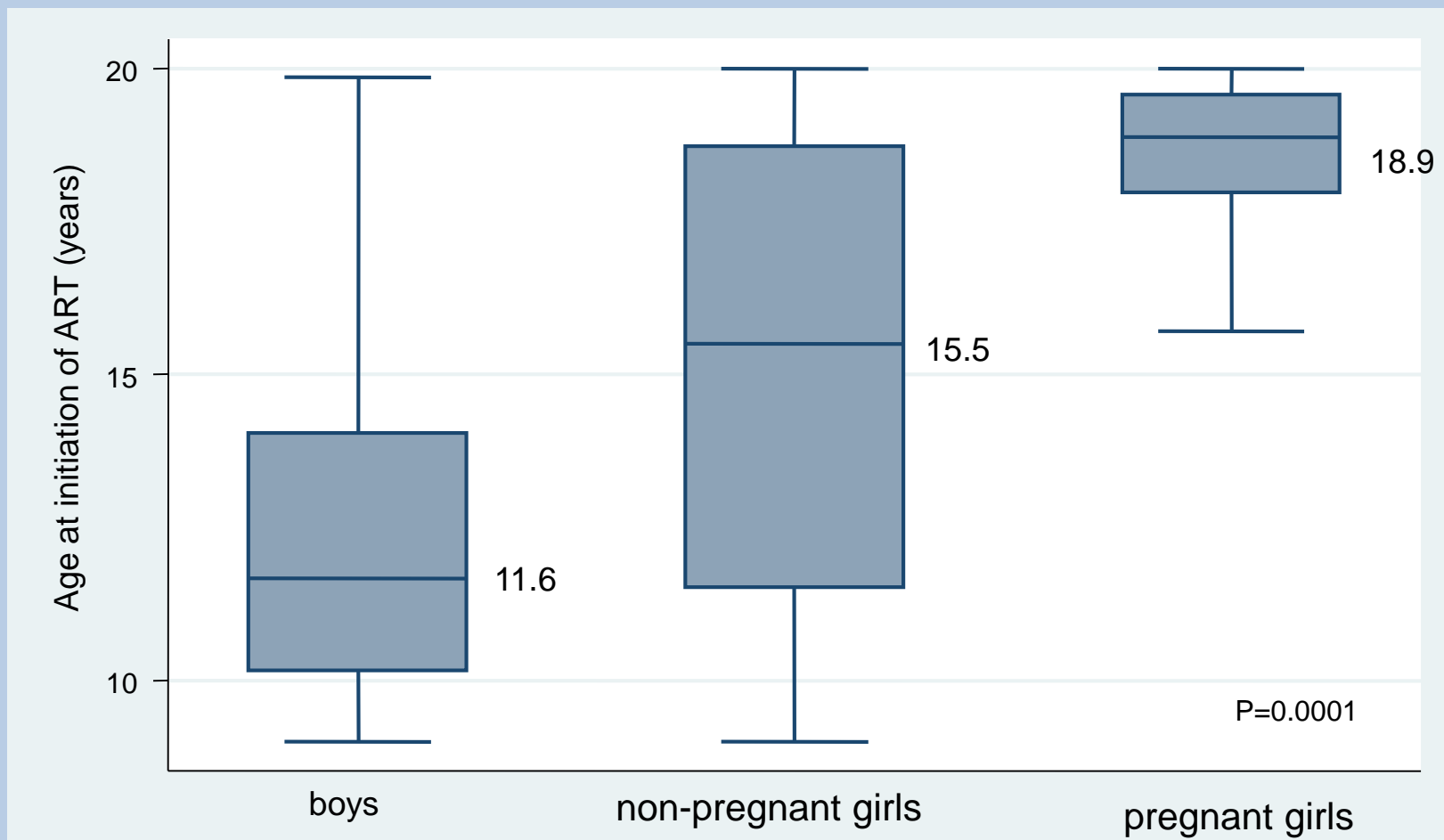


Analyses included competing-risks regression, Cox regression (viral failure) and GEE.

Results

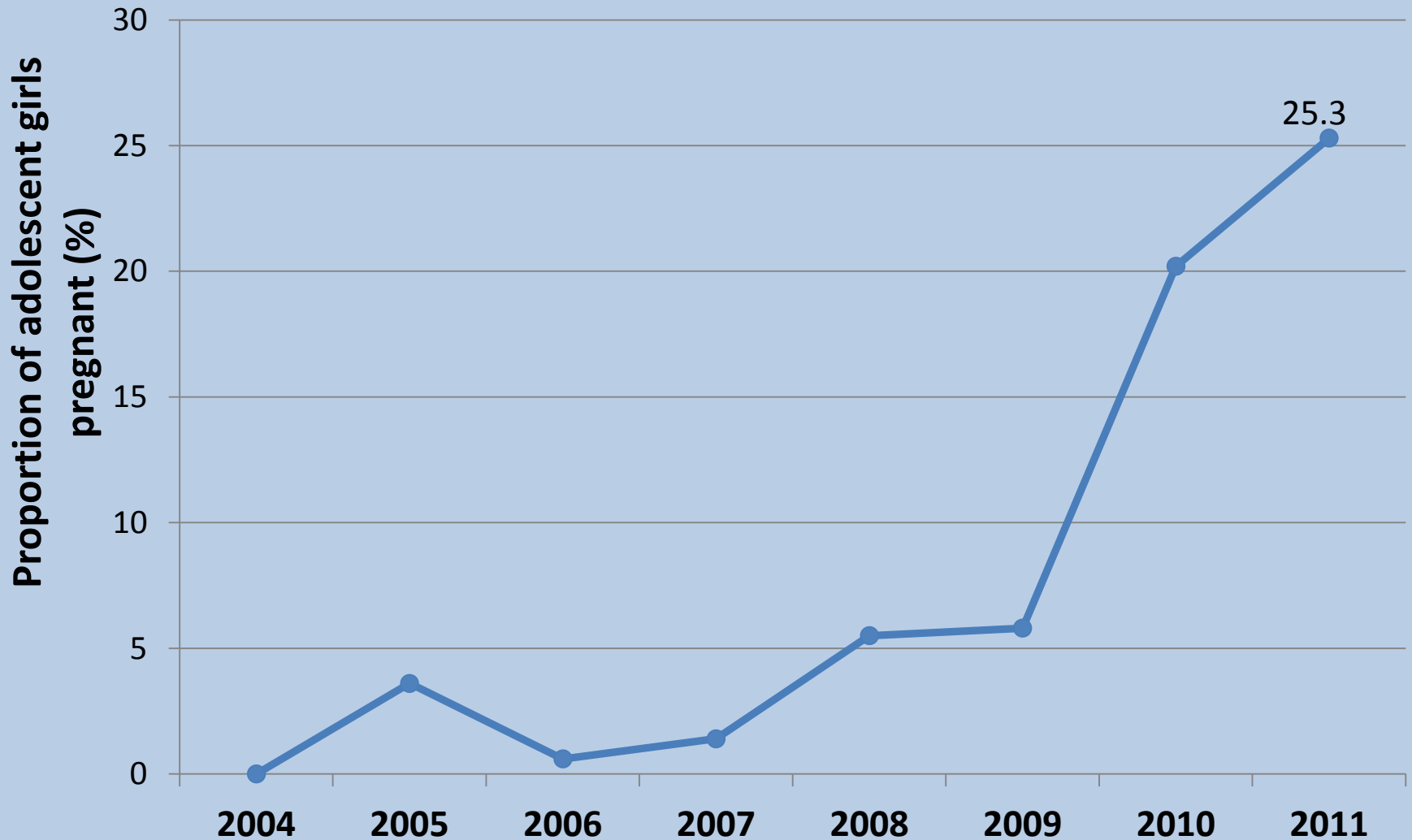
3175 patients were included.

67% adolescent girls; pregnancy amongst girls=10.7% (n=227)





Pregnancy amongst adolescent girls





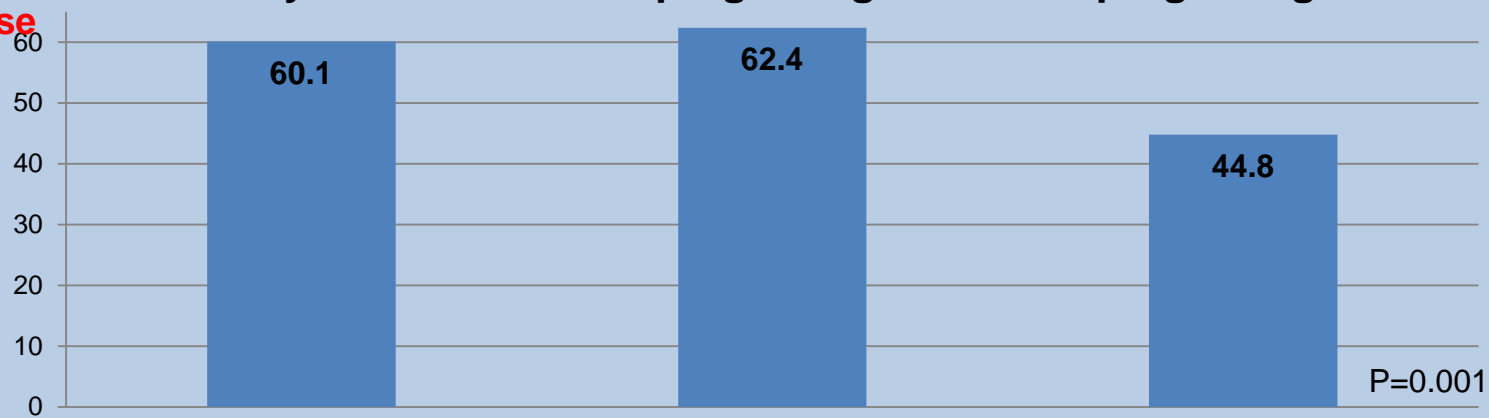
Degree of baseline HIV disease

Boys

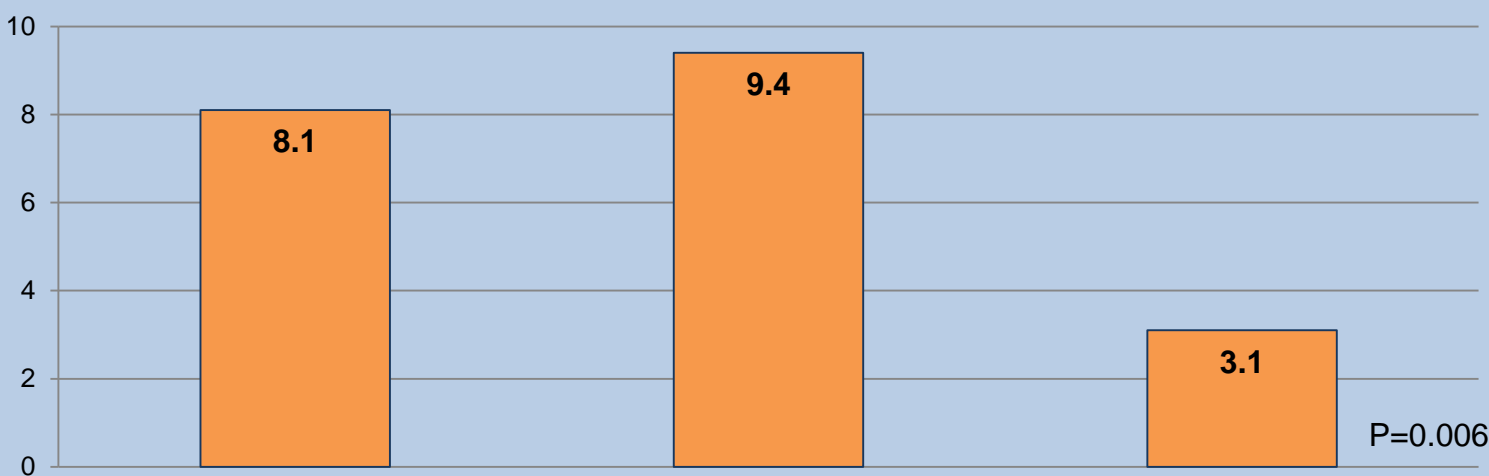
non-pregnant girls

pregnant girls

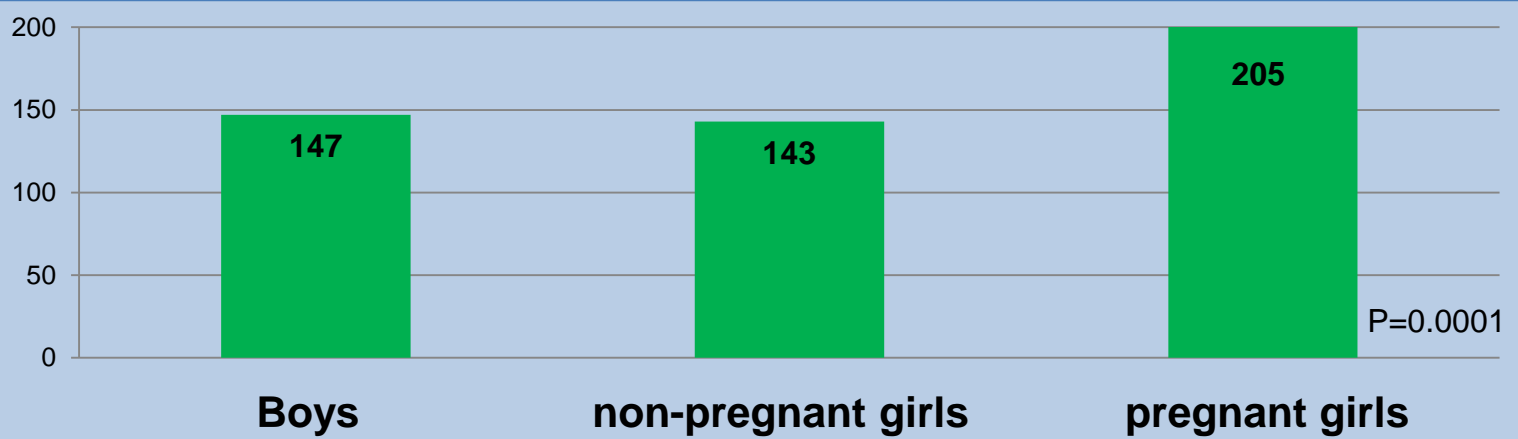
WHO stages 3 or 4 (%)



Tuberculosis treatment (%)

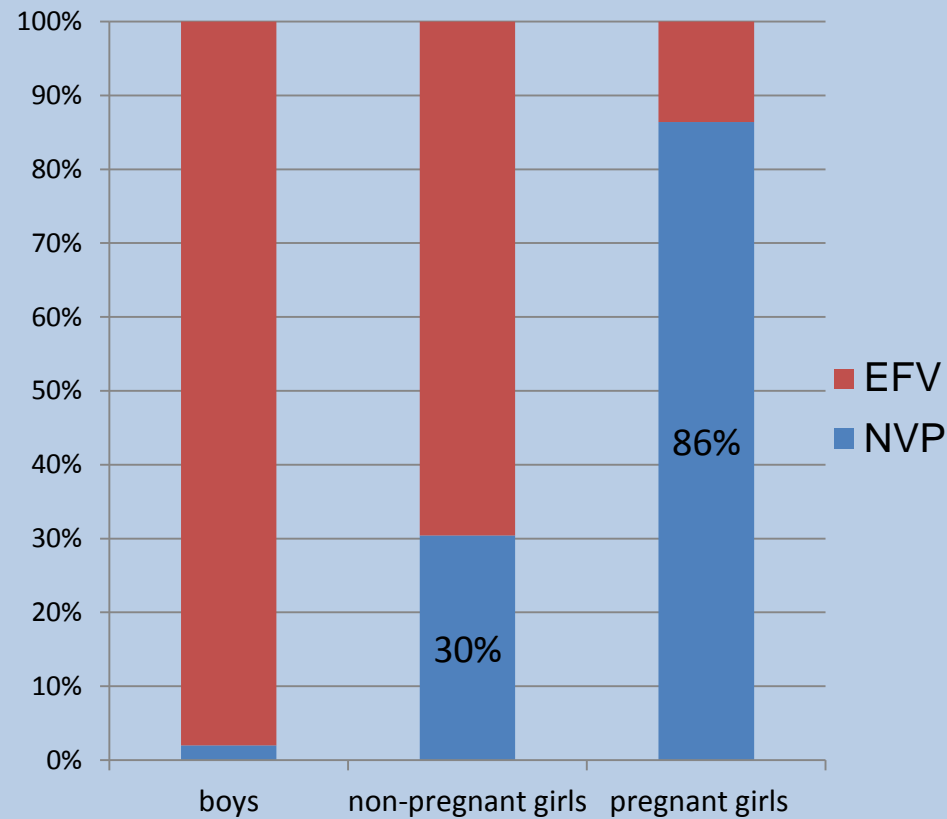
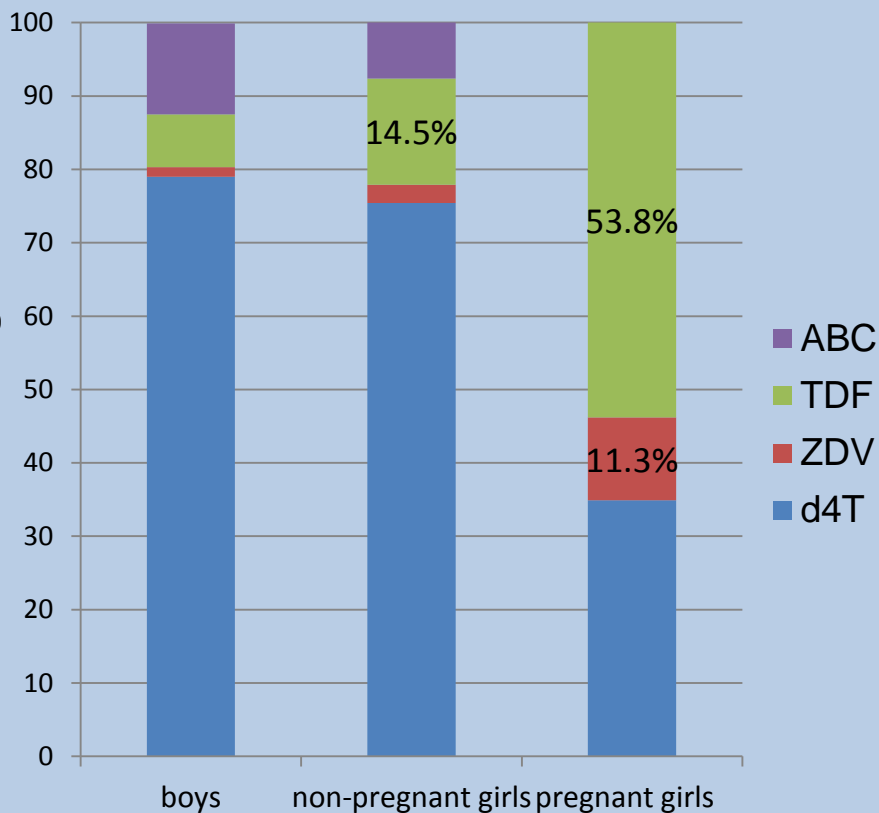


Median CD4 cell count (cells/ μ L)





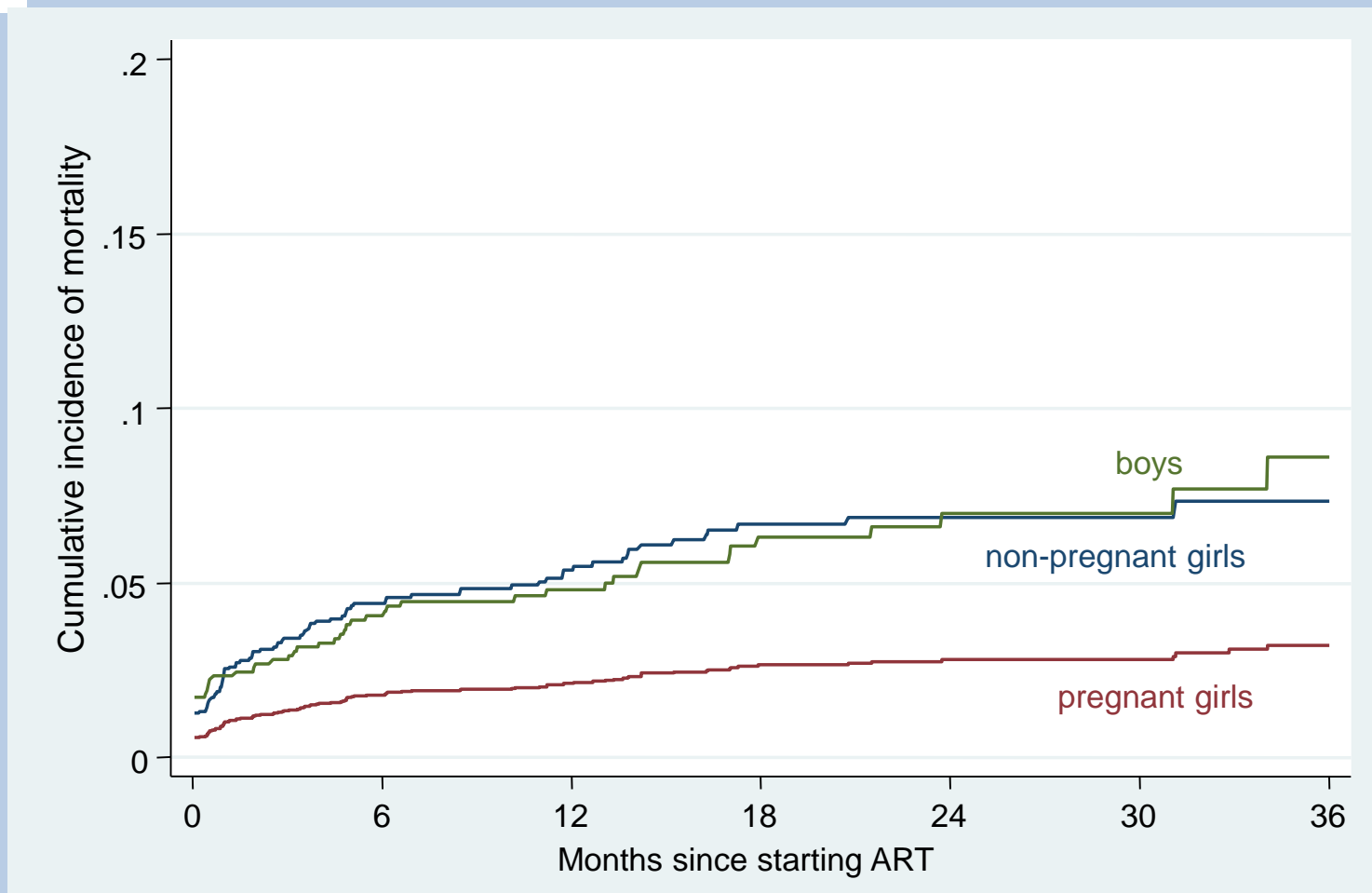
Initial regimen



First NRTI
(all regimens also included 3TC)

NNRTI choice

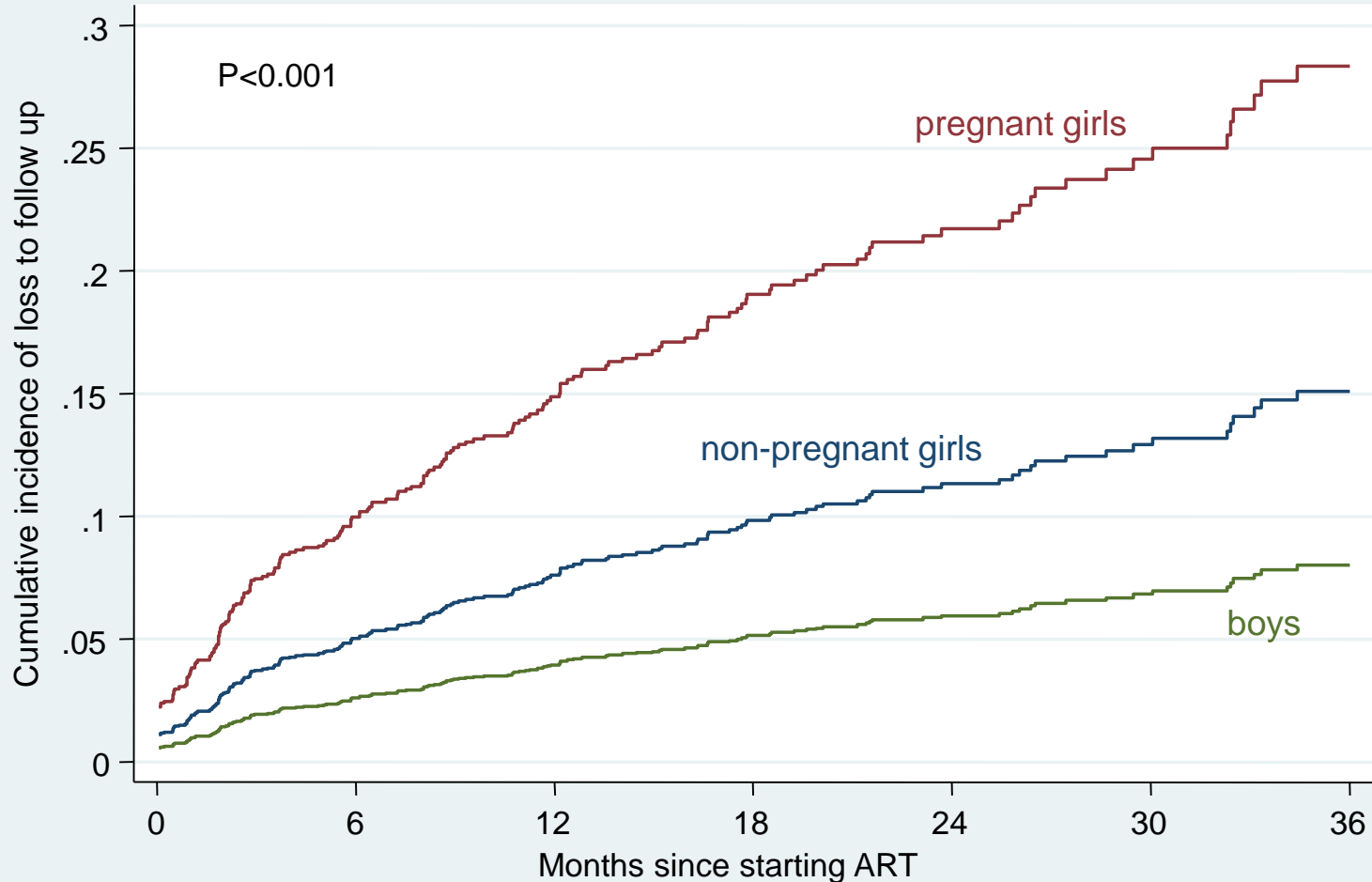
Cumulative incidence of mortality after starting ART



Pregnant girls: crude SHR: 0.42 (95% CI: 0.15-1.15)

adjusted SHR: 1.03 (95% CI: 0.23-4.51; P=0.96)

Cumulative incidence of loss to follow-up after starting ART (competing risks analysis)

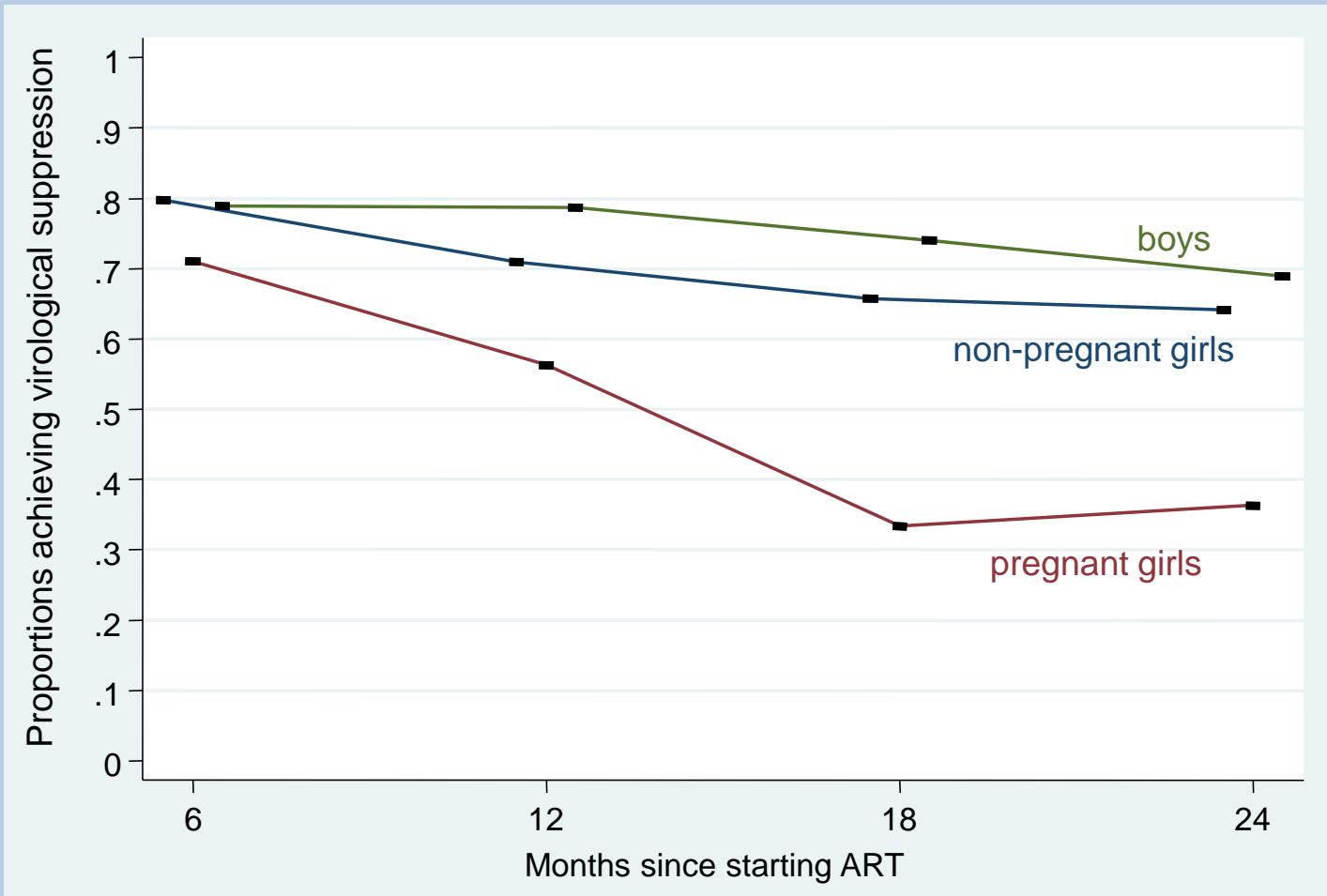


Pregnant girls: Crude SHR: 4.0 (95% CI: 2.4-6.6)

adjusted SHR: 1.94 (95% CI: 1.03-3.65; P=0.040)

Non-pregnant girls adjusted SHR: 1.29 (95% CI: 0.91-1.86; P=0.20)

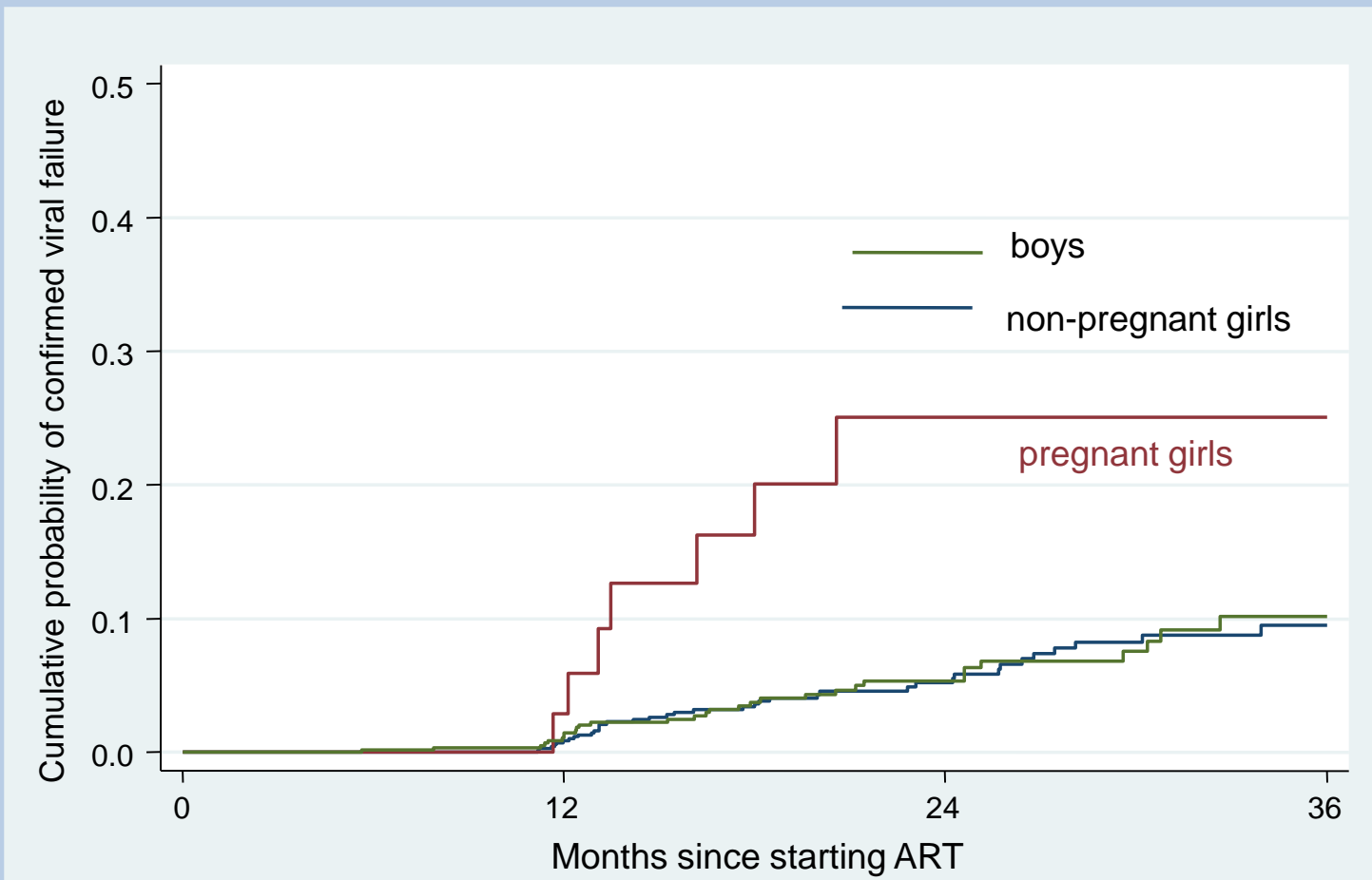
Proportions achieving viral suppression over 24 months of ART



Pregnant girls aOR: **0.58 (95% CI: 0.39-0.86; P=0.006)**

Non-pregnant girls aOR: 0.92 (95% CI: 0.57-1.48; P=0.73)

Cumulative probabilities of confirmed viral failure after starting ART



Pregnant girls aHR: 4.85 (95% CI: 1.78-13.1; P=0.002)

Non-pregnant girls aHR: 1.12 (95% CI: 0.67-1.88; P=0.65)



Conclusions

- There are high levels of pregnancy amongst adolescent girls who are starting ART.
- Adolescents started ART with advanced HIV disease; however, pregnant adolescent girls started ART with less advanced HIV disease.
- Pregnant adolescents were likely diagnosed earlier due to HIV testing at maternal facilities.
- **However**, pregnant adolescent girls had higher incidences of loss to follow-up, poorer viral suppression and higher probabilities of viral failure after starting ART.
- Programs targeting a reduction in adolescent pregnancy, transformation of reproductive services to be more adolescent friendly, and increased ART adherence support for pregnant adolescents in particular, may be important interventions to improve outcomes of adolescents on ART, as well as to potentially reduce vertical HIV transmission.



Acknowledgements



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