

HIV incidence and prevalence among women are associated with their partners' circumcision status in the township of Orange Farm, South Africa

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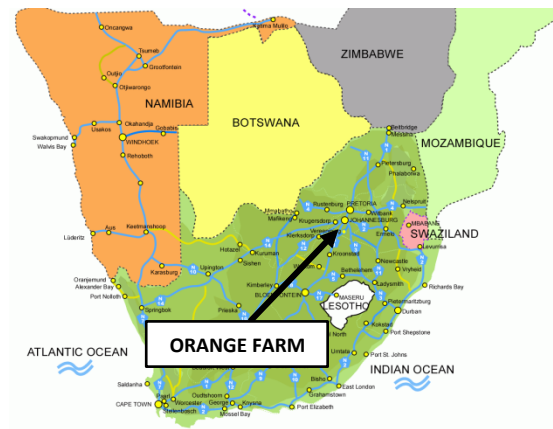


Objective

- To assess the **association** between their **partner's circumcision status** and **HIV incidence and prevalence** among women in Orange Farm (South Africa)

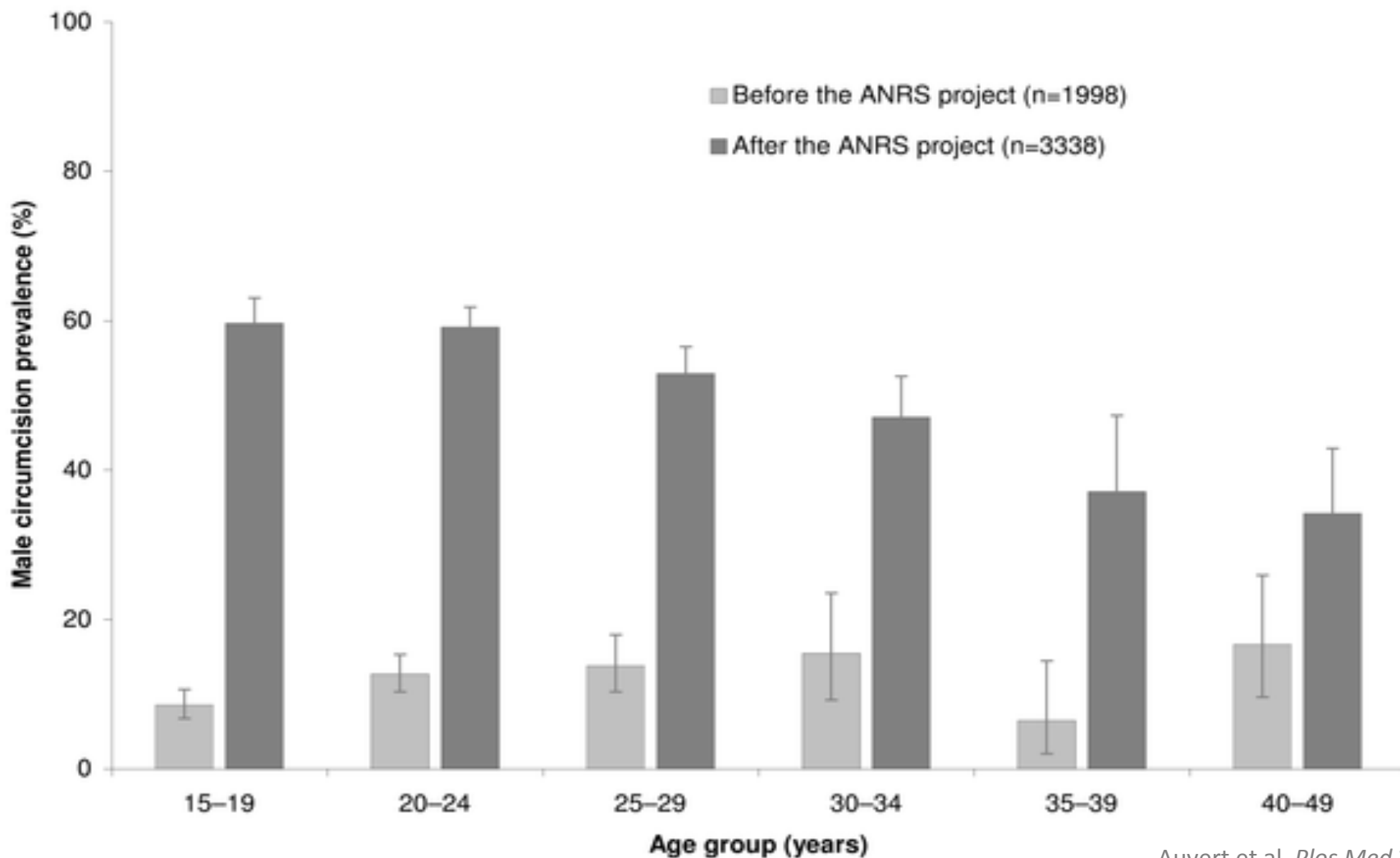
Context - The ANRS « Bophelo Pele » project

- Orange Farm:** Township of ~110,000 adults
- Since 2007: roll-out of free VMMC



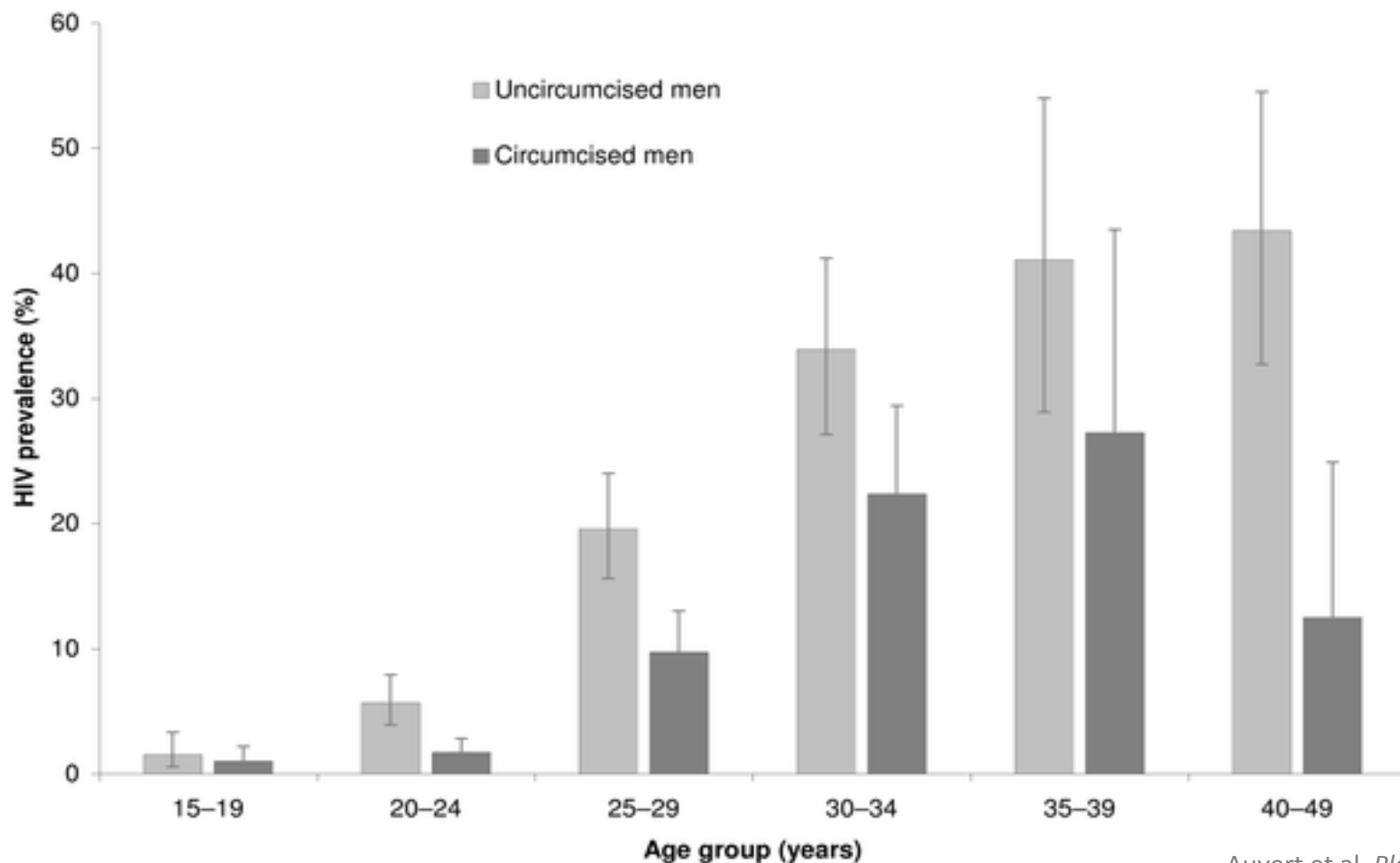
Context (2) - The ANRS « Bophelo Pele » project

- MC prevalence increased from 11% in 2007 to 53% in 2011



Context (3) - The ANRS « Bophelo Pele » project

- HIV prevalence **lower by ~50%** among circumcised men compared with uncircumcised men



Methods (1):

Data collection

Data collected among women: 3 independent surveys (2007-2010-2012)

- Questionnaire: *age, ethnic group, SES, sexual behavior*
- Blood sample: *HIV*

Pooled sample

- **N= 4538 women** (15-49 y) having ever had sexual intercourse

Methods (2):

Analyses

- **HIV Prevalence:** Compared HIV prevalence between women who had had only circumcised partners and all other women
- **HIV Incidence:** Found the **age-incidence function** that best fit the **observed age-prevalence curve**, adjusted for other covariates

Results (1) – HIV prevalence among women

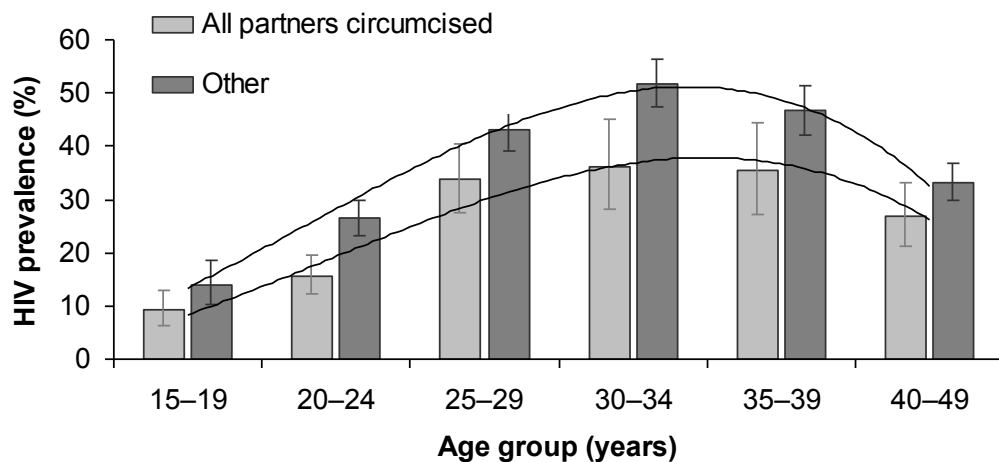
N= 4538 women (15-49 y)
having ever had sexual
intercourse

n=1363 (**30.0%**) women having
had only circumcised partners

HIV prevalence rate : **22.4%** [20.2% - 24.6%]

n=3175 (**70.0%**) other women

HIV prevalence rate : **36.6%** [35.0% - 38.3%]

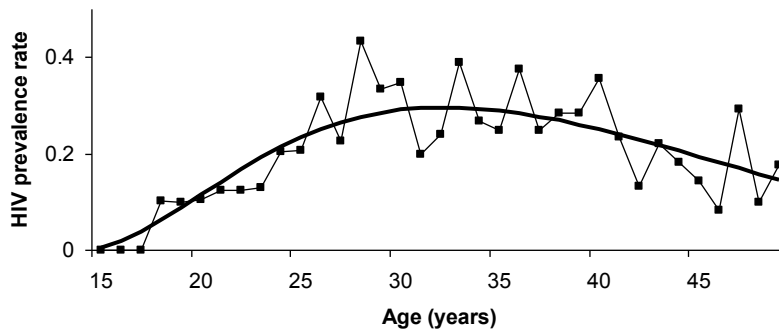


aPRR: **0.85** [0.76-0.95]

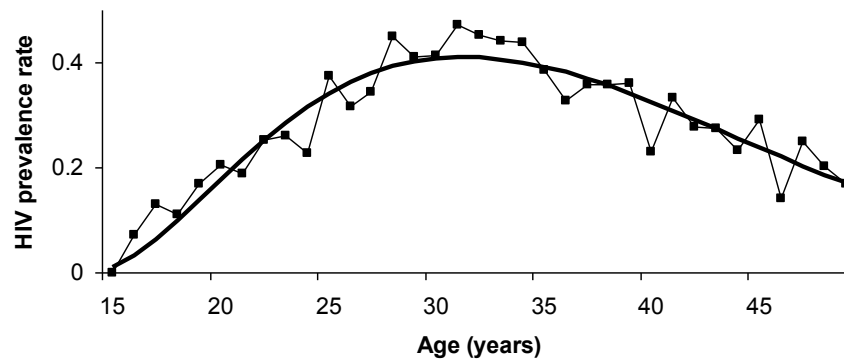
Reduction: **15%** [5%-24%]

aPRR: adjusted Prevalence Rate Ratio (computed with Poisson regression)

Results (2) – Fitting age-specific HIV prevalence

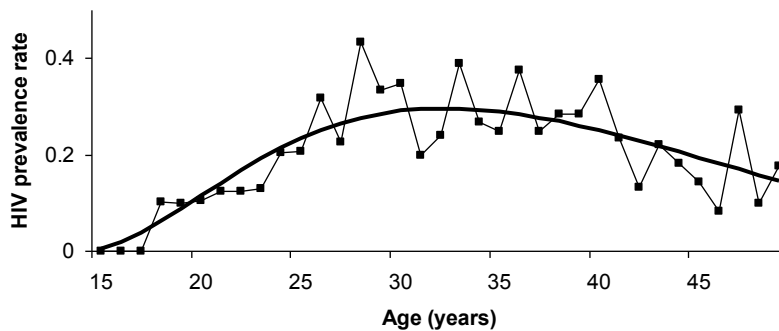


Women with circumcised partners only : n=1363

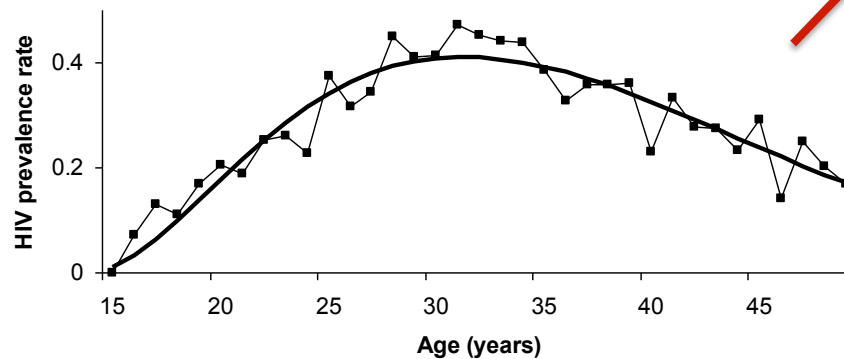


Other women: n=3175

Results (3) – Estimating HIV incidence

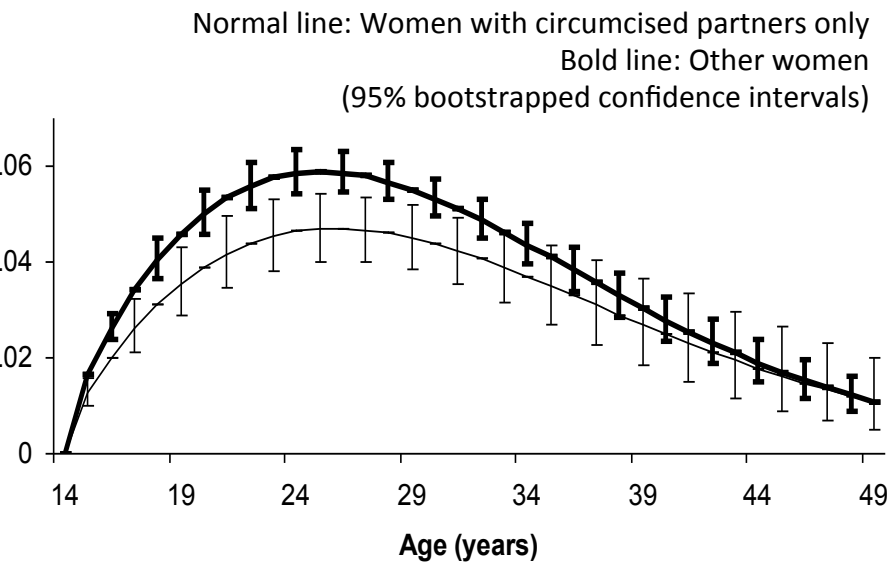


Women with circumcised partners only: n=1363

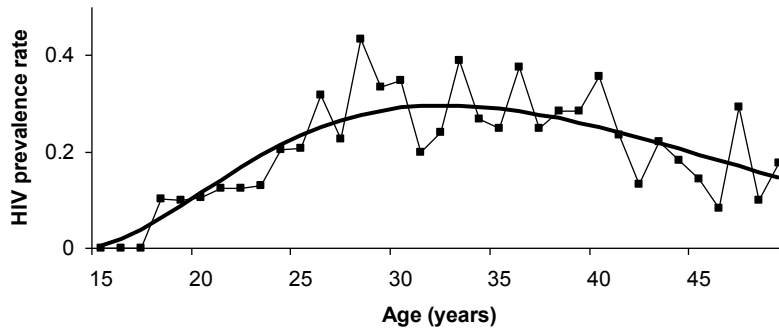


Other women: n=3175

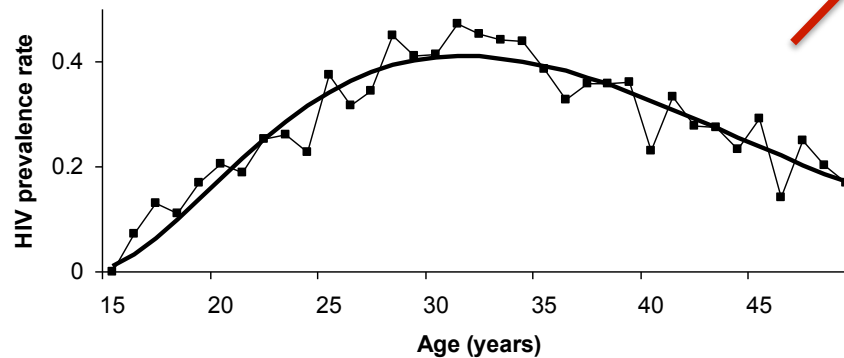
HIV incidence rate (y)



Results (4) – Effect on HIV incidence

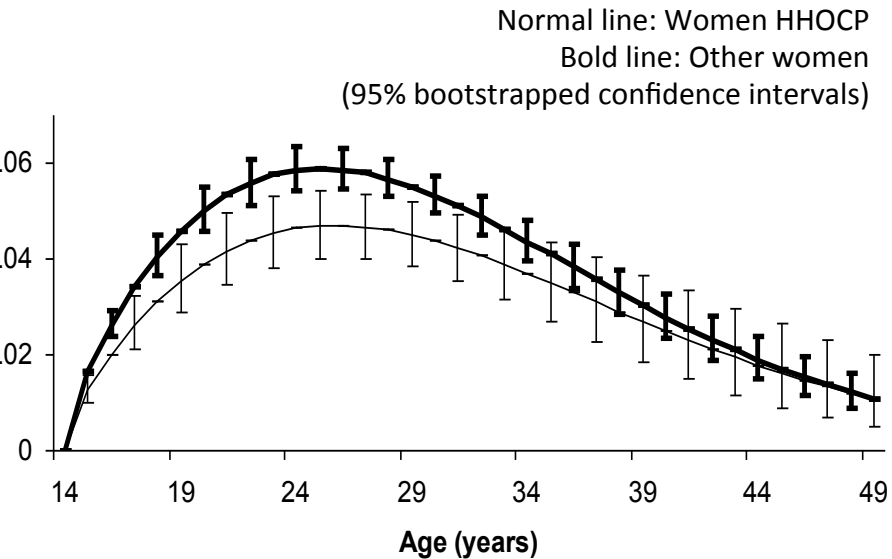


Women with circumcised partners only: n=1363



Other women: n=3175

HIV incidence rate (y)



Incidence rates among 15-49 y

- Women with only circumcised partners: **0.032** [0.027-0.037] /py
- Other Women: **0.039** [0.036-0.042] /py

⇒ Incidence Rate Ratio: **0.83** [0.69-0.99]

⇒ **Reduction: 16.9%** [1.1%-31.0%]

Among 15-29 y

⇒ **Reduction: 20.3%** [5.8%-33.8%]

Discussion

Main finding

- Reduced HIV incidence and prevalence among women having only circumcised partners

Interpretation

- Lower exposure due to a lower prevalence of HIV among circumcised men

Limitations

- Direct or indirect effect?
- HIV incidence modelled, not measured

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