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CONFRONTING INEQUITIES IN STI PREVENTION, DIAGNOSTICS AND CARE



Ben BEPOUKA

University of Kinshasa, DR Congo

Title: HIV infection and risk of COVID-19 death in sub-Saharan Africa. A meta-analysis

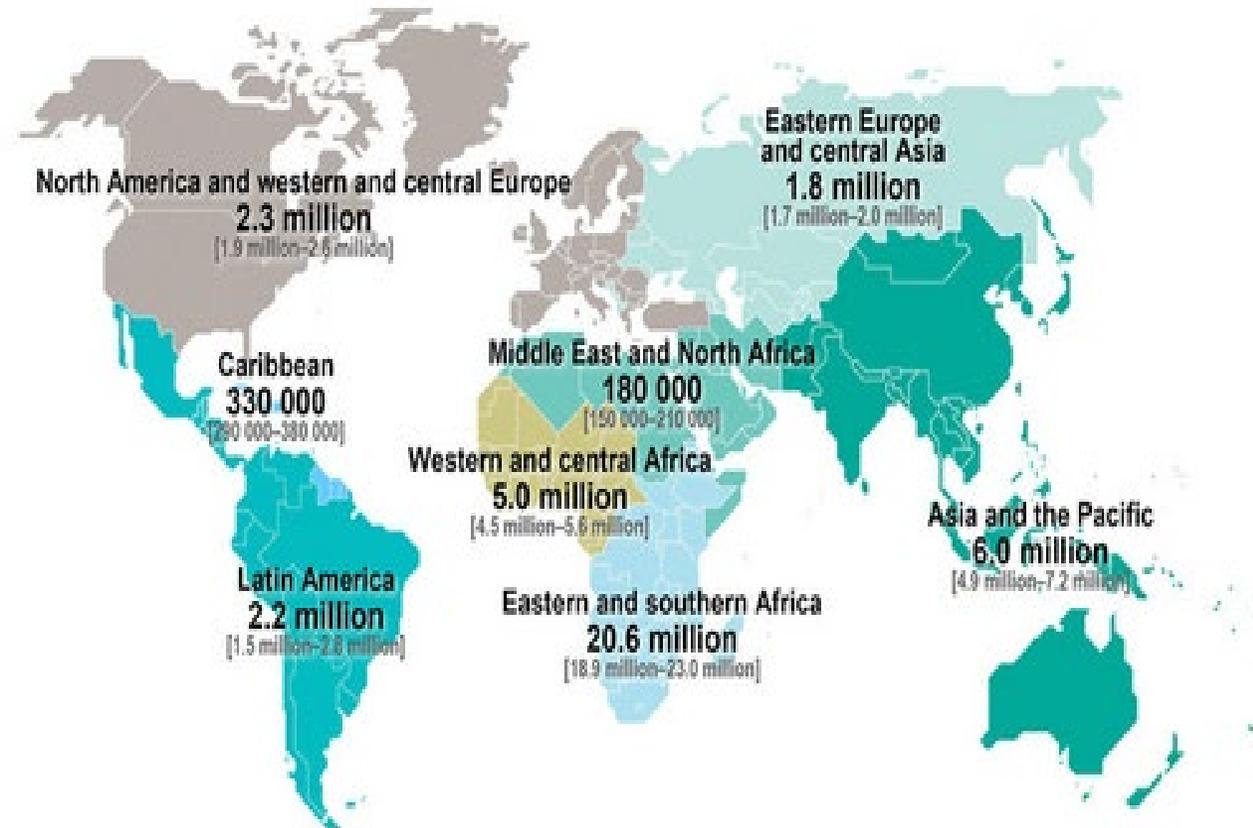
Disclosure

Any circumstances that could give rise to a potential conflict of interest related to the conference or topic under discussion	Name of company, organization or institution
Sponsorship	None
Payment or other financial remuneration	None
Shareholder rights	None
Other relations	None

Background (1)

Adults and children estimated to be living with HIV/2021

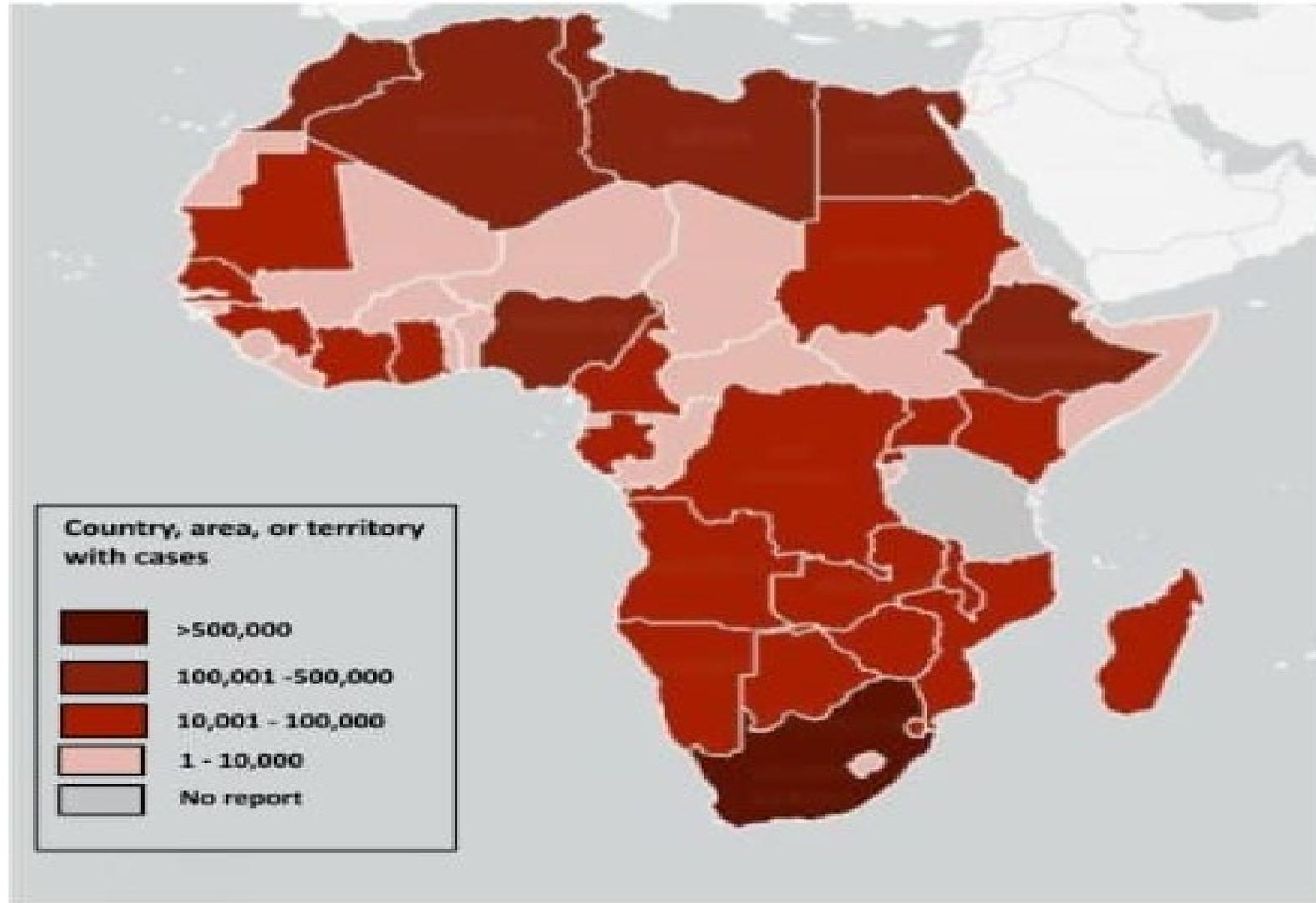
- HIV , major global public health issue, having claimed **40.1 million** [33.6–48.6 million](July 2022)
- There were an estimated **38.4 million** [33.9–43.8 million] PLHIV at the end of 2021, **two-thirds** of whom (**25.6 million**) are in the WHO African Region



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Background (2)

COVID-19 in AFRICA 2021



Source: CDC AFRICA

Background(3)

- **HIV and COVID-19: HIV positive vs general population**

- ✓ **Similar**

- PLWH seem to experience similar clinical outcomes with COVID-19 than those without HIV in series from the U.S. and Europe (**Gervasoni et al., Byrd et al, Calza et al, Okah et al, etc...**)

- ✓ **Worse**

- **Karmen-Tuohy S et al. (USA) , Guo W et al. (China)** worse clinical outcomes
- Meta-analysis by **Danwang et al.** patients with HIV
- **Jassat et al.** worse clinical outcomes (South Africa)

Background(4)

✓ **Less mortality**

- Systematic review by **SeyedAlinaghi et al.** PLHIV less severe symptoms and less mortality following COVID-19

Background(5)

- Little is known about COVID-19 outcomes among People living with HIV in sub-Saharan Africa.
- The goal was to determine the relationship between HIV infection and the risk of coronavirus disease 2019 (COVID-19) mortality in Sub-Saharan African countries.

Methods (1)

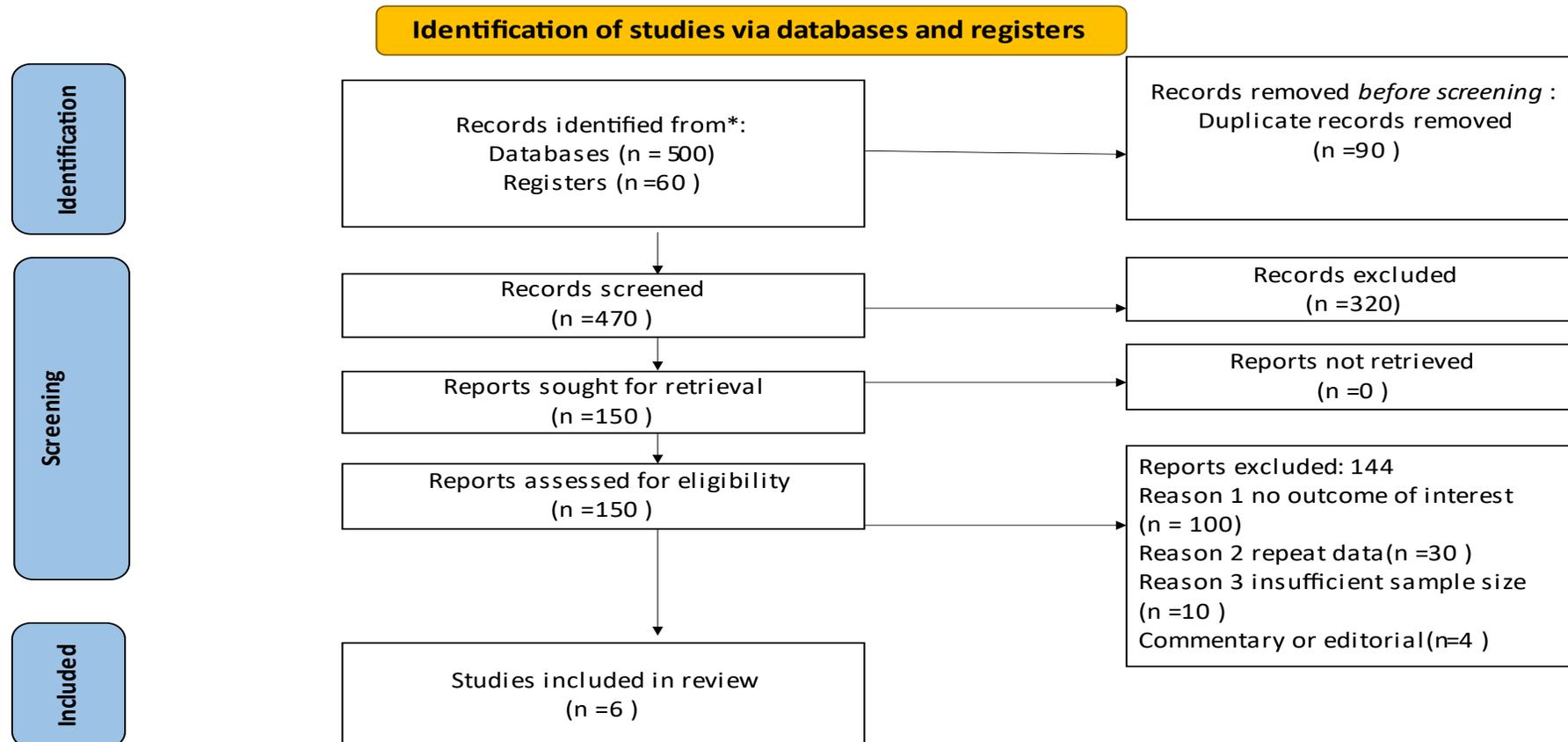
- From December 1, 2019 to December 31, 2021, we systematically retrieved papers from PubMed, Google Scholar, Europe PMC, and EMBase.
- Studies from Niger, Nigeria, the Democratic Republic of the Congo, Uganda and South Africa are all represented in this meta-analysis.

Methods(2)

- To assess the quality of the included studies  Newcastle–Ottawa Scale (NOS).
- To quantify heterogeneity  Cochran Q test and I² statistics
- To look for potential publication bias  The Egger test and the funnel plot were used

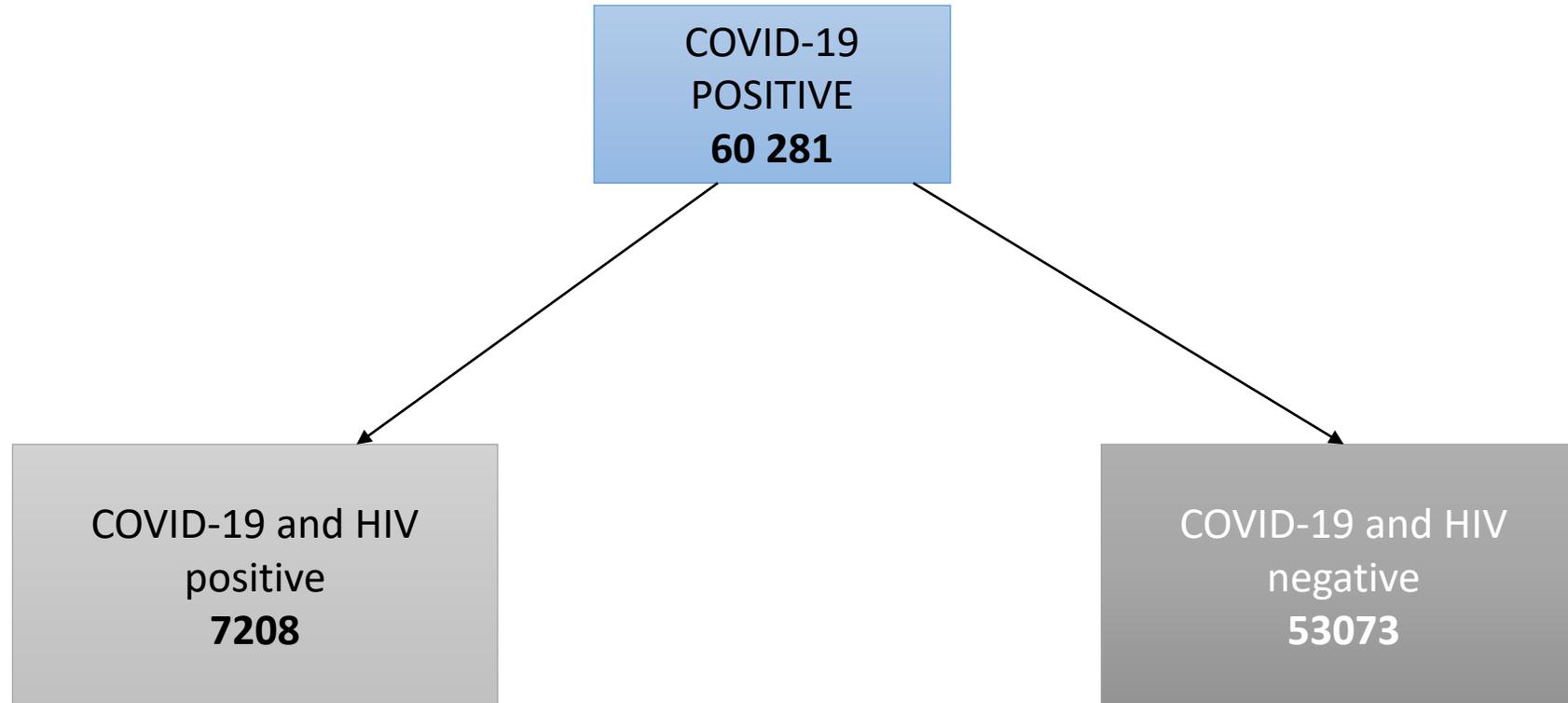
Results (1)

- A total of 560 records were found. Six papers were finally included in this review.



Results (2)

Characteristics



Results (3)

Characteristics

- Among COVID-19 patients with HIV, the mortality rate was **10.90%** (786/7208).

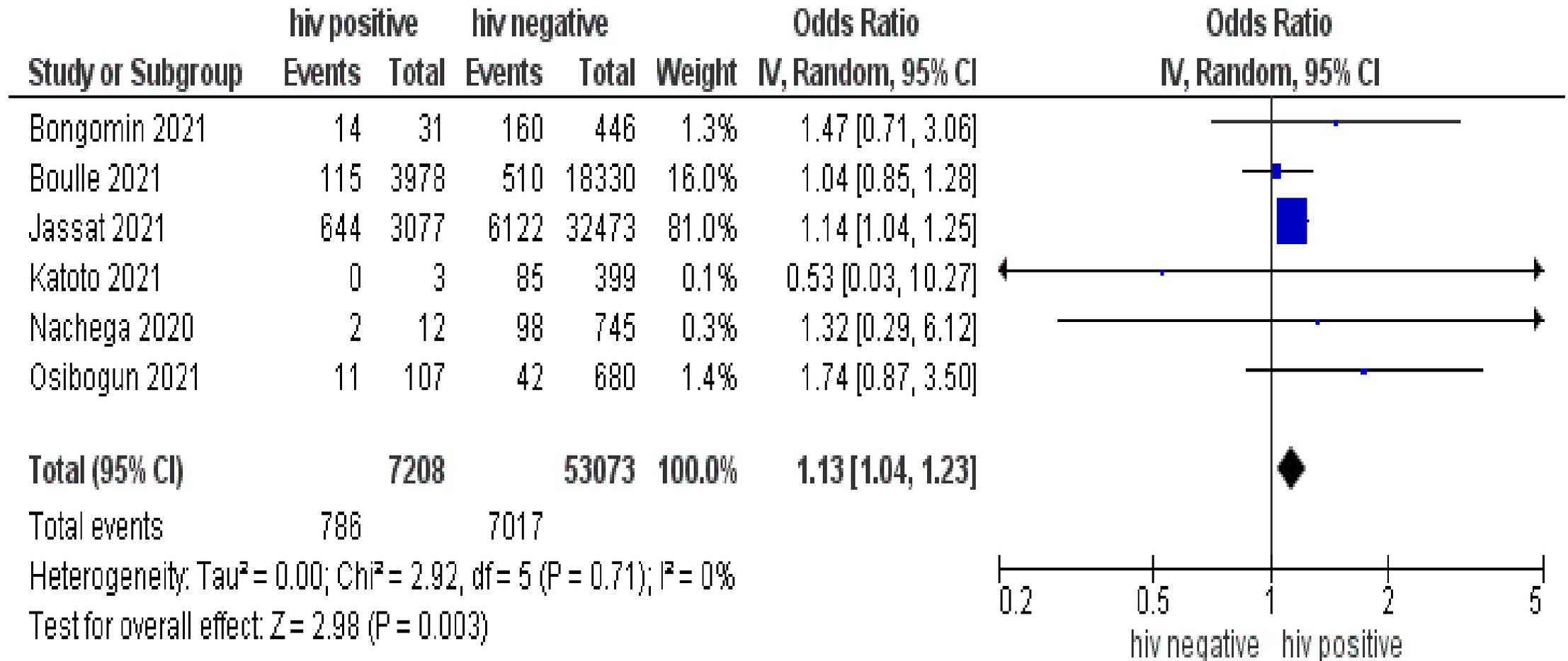
Pooled mortality

- In this meta-analysis, the overall effect size (OR) was **1.13** (95% CI 1.04–1.23).

Results (4)

- There was no substantial heterogeneity among the six studies ($Q=2.92$, $p\ 0.71$; $I^2=0\%$).
- The funnel plot analysis revealed symmetry among the research considered. The Egger test revealed that there was no publication bias ($t = 0.56$, $P = 0.586$).

Results (5)



Discussion

- **Several factors could explain the differences between the results of African studies and those of the European and US cohorts.**

For example, In the large of the South African cohort:

- Only 55% of PLHIV was on ART and virologically suppressed
- a high number of uncontrolled diabetes and active TB

- **Limitations**

- Study no adjusted for CD4 , age, or sex

Conclusion

This meta-analysis found a link between HIV infection and the probability of death from COVID-19.

Those with HIV co-infection should be treated as a priority group during COVID-19 screening and clinical treatment to reduce death risk.

THANK YOU