

Introduction

- Antiretroviral therapy (ART) has significantly reduced the mortality rates in people living with HIV (PLWH)¹⁻²
- However, there is a gradual increase in the prevalence of metabolic and cardiovascular disease (CVD) in the ageing population of PLWH on ART³⁻⁶
- Despite the well-described link between obesity and incidence of CVD, prognostic factors associated with poor cardiovascular-related outcomes in ART-treated PLWH remain controversial.
- The prognostic value of traditional CVD-risk scores remains unclear in PLWH on ART.



- To synthesize and assess the predictive value of traditional and novel prognostic factors in ART-treated PLWH and obesity.

Objectives

- To review and provide a synthesis of prognostic factors of metabolic complications in people living with HIV (PLWH) and obesity on antiretroviral therapy (ART).
- To assess the modulatory effect of ART and obesity on traditional cardiovascular risk factors.

Methods

Eligibility criteria

- P** ART-treated adults (18 years and older) living with HIV and obesity
- I** The predictive factors reported as multivariable model included in the Framingham risk score
- C** -Treatment naïve and treated PLWH
-Uninfected adults with normal body weights
- O** Fatal and non-fatal CVD, reported as odds ratio (OR) and hazards ratio (HR)
- T** Predictors reported before the initiation of ART and post-treatment were considered

Search strategy: *Obesity, cardiovascular disease, antiretroviral therapy and prognosis*

Databases search



Methods (cont.)

Risk of bias and quality assessment

- Certainty of evidence in the included studies was assessed using the Quality in Prognostic Studies (QUIPS) tool based on six domains
- The overall quality of evidence was evaluated using the Grading of Recommendation Assessment Development and Evaluation (GRADE) approach

Statistical analysis

- Data for potential prognostic factors were expressed as OR and HR
- The Cohen's kappa scores were used to measure interrater reliability
- Prognostic factors with effect estimates in the same direction across the included studies were considered as confirmed

Results

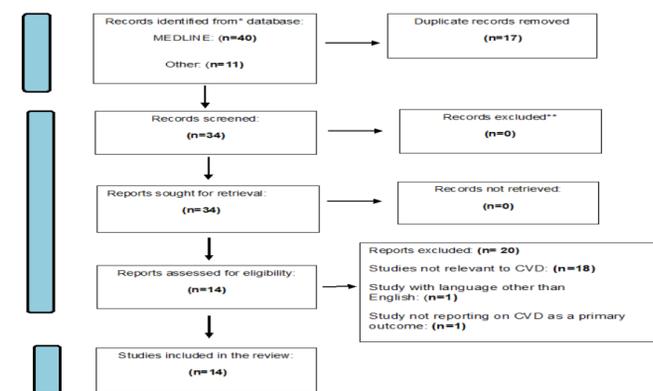


Figure 1: Study selection using the PRISMA diagram

We retrieved a total of 51 citations, and after full-text screening, only 14 studies met the inclusion criteria.

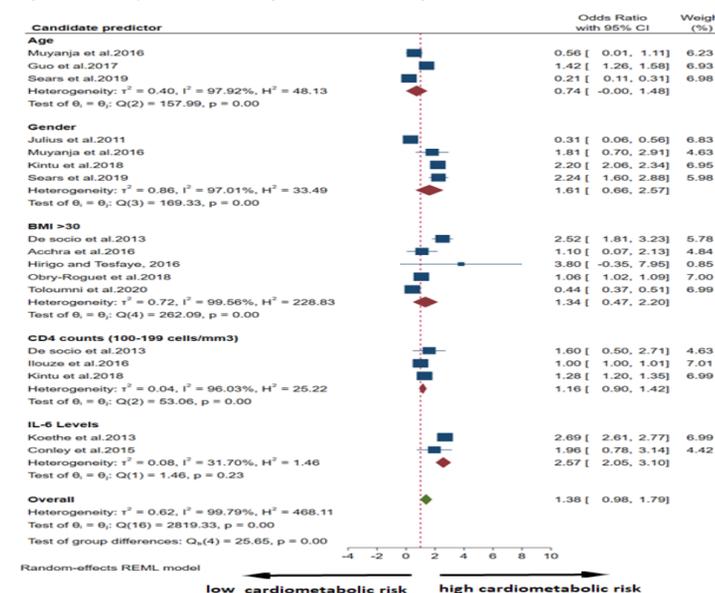


Figure 2: Prognostic factors of cardiovascular risk in people on ART living with HIV and obesity.

Results (cont.)

Two studies were scored as good (25-28 points) while seven were scored as fair (21-24 points) and the other five were scored as poor (15-20 points)

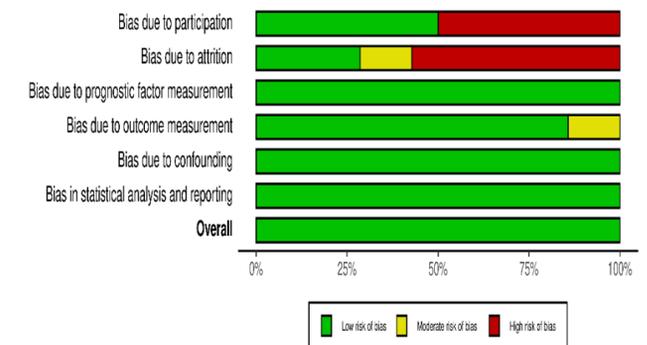


Figure 3: Risk of bias assessment of the included studies (n=14).

Conclusion

In this systematic review and meta-analysis, we identified and confirmed nadir CD4 counts between 100-199 cells/mm³, and IL-6 levels prior to initiation of ART as prognostic factors strongly associated with cardiometabolic risk in PLWH and obesity

References

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