

## Immunogenicity and Duration of Protection After Yellow Fever Vaccine in People Living with HIV: A Systematic Review

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### Background

Current evidence is scarce regarding the seroconversion rate, the duration of humoral protection after yellow fever (YF) vaccine, and the impact of revaccination in people living with HIV (PLWHIV).

### Materials and Methods

MEDLINE, Google Scholar, LILACS and Cochrane CENTRAL were searched.

We selected studies on PLWHIV of all ages (including perinatally HIV-infected patients) and all settings (YF endemic and non-endemic zones) vaccinated against yellow fever, at least once after the HIV diagnosis. The research questions were the seroconversion rate, duration of humoral immunity after YF vaccine and impact of revaccination in PLWHIV. Selected studies were assessed for quality using the Newcastle-Ottawa scale.

### Results

Ten, six and six studies were selected for the systematic review of each question, respectively. Only one study addressed the first question in perinatally HIV- infected children. The quality of the studies was assessed as Poor (n=16), Fair (n=2) or Good (n=4). A meta-analysis demonstrated that 97.6% (95%CI 91.6-100) of the included population seroconverted. Between 1 and 10 years after YF vaccine, reported persistence of neutralizing antibodies was 72% (95%IC 53.6-91), and 62% (95%IC 45.4-78.6) more than 10 years after YF vaccine. No conclusions could currently be drawn on impact of revaccination due to small number of patients.

### Conclusions

The current evidence regarding seroconversion rate, duration of humoral protection after YF vaccine and impact of revaccination in PLWHIV is limited by the low number and quality of studies. Based on the presently available data, it is difficult to rationally develop yellow fever vaccination guidelines for PLWHIV.