Background Female positive/male negative (♀+/♂⁻) HIV-serodiscordant couples desiring children have expressed an interest in safer conception interventions to reduce HIV transmission. Approximately 45% of HIV-infected women desire children and may choose to engage in condomless sex to achieve pregnancy. Without routinely available preconception counselling and safer conception reproductive services, ♀+/♂⁻- HIV-serodiscordant couples who desire children represent a key population at risk of sexual HIV transmission.

Methods We conducted a prospective study of ♀+/♂⁻- HIV-serodiscordant couples desiring children in Kenya to evaluate the feasibility and efficacy of timed vaginal insemination (TVI). Eligible couples included female partners age 18–34 years with regular menses and HIV disclosure to male partners. Prior to TVI, couples were tested and treated for STIs, advised on and monitored for consistent condom use (i.e. evaluation for the presence of prostate specific antigen) and regular menses, and educated on TVI. The intervention included sexual intercourse with a condom and semen collection with a syringe for TVI during the fertile window for up to six menstrual cycles. Time to pregnancy with TVI was assessed with a Kaplan-Meier analysis.

Results Forty ♀+/♂⁻- HIV-serodiscordant couples were enrolled. Seventeen couples exited prior to TVI due to dissolution of the relationship (n = 4), voluntary cessation of study participation (n = 2), HIV seroconversion (n = 2), irregular menses (n = 2), or lost to follow-up (n = 7). Twenty-three couples (57.5%) were introduced to TVI. At baseline, 17 (73.9%) women reported previous pregnancy as natural conception while minimizing the risk of transmission, we estimated that 36% of women will become pregnant within 150 days (95% CI, 0.38–2.56). Body weight was not significantly associated with nevirapine-associated rash and/or hepatotoxicity among HIV-infected patients in Indonesia.

Conclusion In Indonesia settings where patients were initiated NVP, history of drug allergy, lower body weight, and higher CD4 cell count at the time of NVP initiation was 147.3 (2–613) cells/mm³. There were 49 patients in case group and 100 patients in control group. In case group, 18.4%, 73.9%, 18.4% and 18.4% of patients developed grade 1, 2, 3, and 4 of rash, respectively. Mean time to develop rash was 19.4 (5–52) days. By logistic regression, history of drug allergy (OR, 4.20; 95% CI, 0.64–27.94), body weight (OR, 1.15; 95% CI, 0.72–1.82), CD4 cells counts (OR, 0.85; 95% CI, 0.54–1.35), and AIDS-defining illness (OR, 0.99; 95% CI, 0.38–2.56) were not significantly associated with nevirapine-associated rash and/or hepatotoxicity.

Disclosure of interest statement Authors declare that there is no conflict of interest regarding the publication of the paper.