

**HIV infection and high risk sexual behaviour are associated with infertility: a case-control study in Kigali, Rwanda.**

**ABSTRACT**

**BACKGROUND:** Anthropological studies have shown that infertility can lead to marital instability and multiple sexual partners which are risk factors for HIV infection. This study examined whether high risk sexual behaviour and HIV/STIs are associated with infertility comparing couples in an infertile relationship with couples in a fertile relationship in an urban population in Kigali, Rwanda.

**METHODS:** This case-control study recruited sexually-active women aged 21 to 45 years and presenting with infertility problems at the infertility clinic of the Kigali teaching hospital, Rwanda. Fertile controls who recently delivered were recruited from the community. After inclusion, women invited their male partners to participate. All subjects were asked questions about socio-demographic characteristics and their sexual behaviours in a face-to-face interview and tested for HIV and several curable STIs.

**RESULTS:** Between November 2007 and May 2008, 312 women and 254 partners in infertile relationships and 312 women and 189 partners in fertile relationships were enrolled in the study. Being in an infertile relationship is independently associated with HIV infection in women (adjusted odds ratio (AOR) =2.90, 95%CI=1.87-4.49) and in men (AOR=2.69, 95%CI=1.49-4.85) and with having multiple partners in the last 12 months (AOR for women 4.35; 95%CI=1.76-10.74, AOR for men 6.22; 95%CI=2.93-13.22) but not with the presence of STIs. In the subgroup of secondary infertility these associations are stronger while in the subgroup of primary infertility these associations are weaker.

**CONCLUSION:** The high HIV prevalence in infertile couples and their high risk sexual behaviour documented in this study lend strong support to the argument that infertility is one of the underlying forces of the HIV epidemic. Infertility deserves more attention in sub-Saharan Africa. The implications of these results on the broader research agenda will be discussed.