



# Differences in sexual risk behavior and frequency of STI testing according to HIV serostatus among MSM in the Netherlands

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## Background

In the Netherlands, men who have sex with men (MSM) account for most new HIV diagnoses. Despite the availability of successful treatment, there is still ongoing transmission. Research thus far has focused mainly on assessing the impact of individual measures, such as early initiation of treatment or pre-exposure prophylaxis. However, the impact of combined strategies is unknown. To assess the effect of prevention measures, the sexual network of MSM has to be defined to reflect the HIV epidemic before the implementation of these measures.

## Objective

In order to make a transmission model to assess the impact of interventions on HIV transmission, we aimed to:

- describe the sexual behavior of MSM;
- investigate important characteristics (condom usage, STI testing rates, sexual activity) within steady and casual relationships

## Methods

We used data from the Network Study among MSM in Amsterdam to assess:

- the fraction of partners with whom MSM had condomless anal intercourse (CAI), determined per age group and HIV status.
- the frequency of sex acts within steady relationships, based on the length of the relationship.

Moreover, we used data of MSM visiting STI clinics in the Netherlands to determine:

- the proportion of MSM testing consistently for HIV and/or STIs at least every six months, determined separately for men with and without a prior HIV diagnosis and according to the number of sexual partners they had.

## Acknowledgements

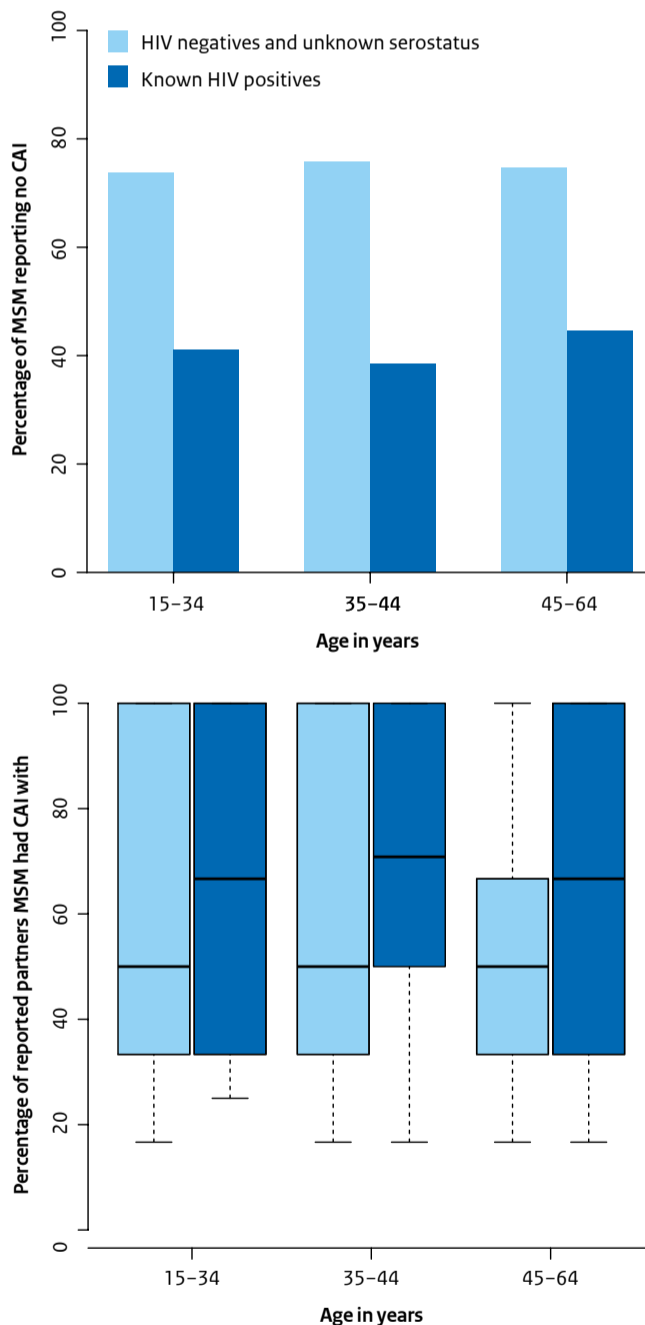
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## Results 1: CAI with casual partners

HIV negative MSM and those with unknown serostatus were less likely to have had CAI with any of their partners than known HIV positive MSM (Figure 1a).

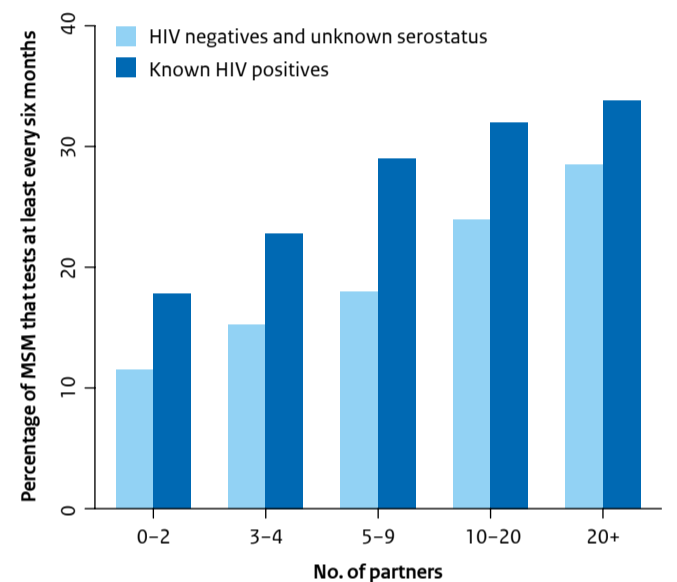
Among MSM that had at least one CAI, known HIV-positive MSM reported having CAI with a higher fraction of their casual partners than HIV-negative MSM (Figure 1b). However, no differences were found within HIV status between different age groups (Figure 1a, 1b).



**Figure 1:** (a) Percentage of MSM reporting no condomless anal intercourse (CAI), according to age and HIV serostatus. (b) Boxplot of fraction of reported relationships with CAI by MSM that had at least once CAI, according to age and HIV serostatus.

## Results 2: Consistent STI testers

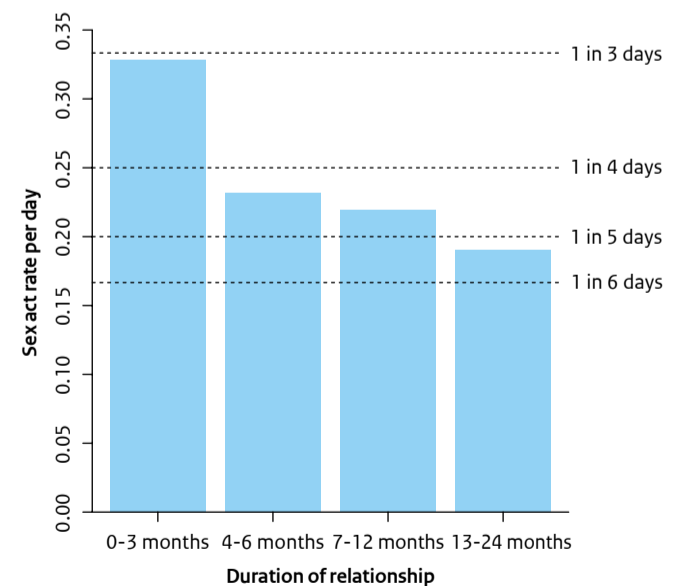
MSM who already had an HIV diagnosis were more likely to consistently test at least every six months, compared to MSM who were HIV-negative or with unknown serostatus. Also, MSM with more partners were more likely to consistently test at least every six months, compared to MSM with less partners (Figure 2).



**Figure 2:** Percentage of MSM consistently testing for STIs at least every six months, for different number of partners in the previous six months and different HIV statuses.

## Results 3: Sexual activity decreases within steady relationships

Average sex acts per day decreased with 40% between the first three months and the second year of steady relationships (0.33 acts per day and 0.19 acts per day respectively). The longer the relationship, the lower the average sex act rate becomes.



**Figure 3:** Average frequency of sexual contacts in steady relationships of different lengths.

## Conclusions

MSM diagnosed with HIV engage in more risky behavior, but they are more frequently tested for STIs, compared to HIV-negative MSM or those with unknown HIV serostatus. In addition, the frequency of STI testing appeared to increase with increasing numbers of casual partners. MSM in the Netherlands continue to engage in risky sexual behaviors, but they also seem to be aware of their risk to acquire HIV and/or other STIs.