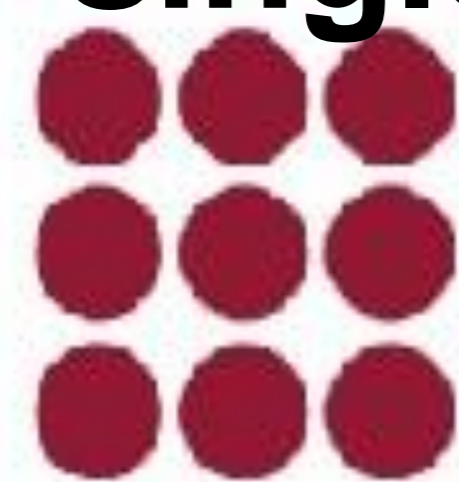


Co-infection with Syphilis in new diagnosis of HIV infection during the period 2010-2017: a single center cohort



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Background

An increasing number of Syphilis diagnosis were reported in recent years, concurrently, in Italy, the number of new cases of HIV infection remained stable; also if raising in men who have sex with man (MSM).

In this retrospective study, we evaluated the presence of Syphilis in new diagnosis of HIV infection during the period 2010-2017 in the Modena HIV Cohort. At once, new infections with Syphilis after HIV diagnosis were considered in this population.

Material and methods

All new diagnosis of HIV infection reported to the HIV Surveillance System of Modena during the period 2010-2017 were enrolled. Diagnosis of Syphilis were performed using the combined RPR-TPHA test.

| Characteristic | HIV infection N (%) | Syphilis co-infection N (%) |
|------------------------------|---------------------|-----------------------------|
| Total | 479 | 45 |
| Gender | | |
| Male | 355 (69.9) | 44 (97.8) |
| Female | 144 (30.1) | 1 (2.2) |
| Age* | 38.0 (30.0 – 47.0) | 41.0 (28.0 – 54.0) |
| Foreign born | | |
| Italian | 187 (39.0) | 7 (15.6) |
| | 292 (61.0) | 38 (84.4) |
| Route of transmission | | |
| MSM | 176 (36.7) | 33 (73.3) |
| HC | 303 (63.3) | 12 (26.7) |

Table 1. Characteristics of patients
* Median (InterQuartile Range)

Results

During the study period 479 new diagnosis of HIV infection were reported; 355 (39.9%) were males, 187 (39%) were foreign born of Italy and 176 (36.7%) were MSM as described in table 1. Median age was 38.0 years old (IQR 30-47). Characteristics of the patients are presented in Table 1.

No statistical differences in the number of new HIV diagnosis was observed during the study period (p for trend= 0.598).

In 45 (9.4%) patients a concomitant diagnosis of syphilis was reported; mainly in males (97.8%), Italians (84.4%) and more frequent in MSM (73.3%) despite in Heterosexual (HC) (26.7%) (p<0.001).

A four-years period were used to evaluate the rate of co-infection: 7.3% in 2010-13 and 11.9% in 2014-17 (p=0.089), without statistically significant increase (Fig. 1).

The only determinants to be co-infected with HIV and Syphilis in multivariate analysis was the risk of transmission (MSM vs HC, OR: 3.02 (95% CI 1.38-6.61); p=0.006) and gender (males vs female: OR 9.03 (95% IC 1.12-72.48); p=0.038); age (OR. 1.01 (95% IC 0.98-1.04), p=0.577) and immigrant (OR: 0.71 (95% IC 0.28-1.81), p=0.474) were not significant as shown in table 2.

21 out of 479 (4.4%) patients experienced a new episode of Syphilis during follow up; in 16 people a new diagnosis was reported, in five (11.1%) with experienced syphilis infection. All of these ones were males, 16/21 (76.2%) Italians and in 76.2% of cases in MSM.

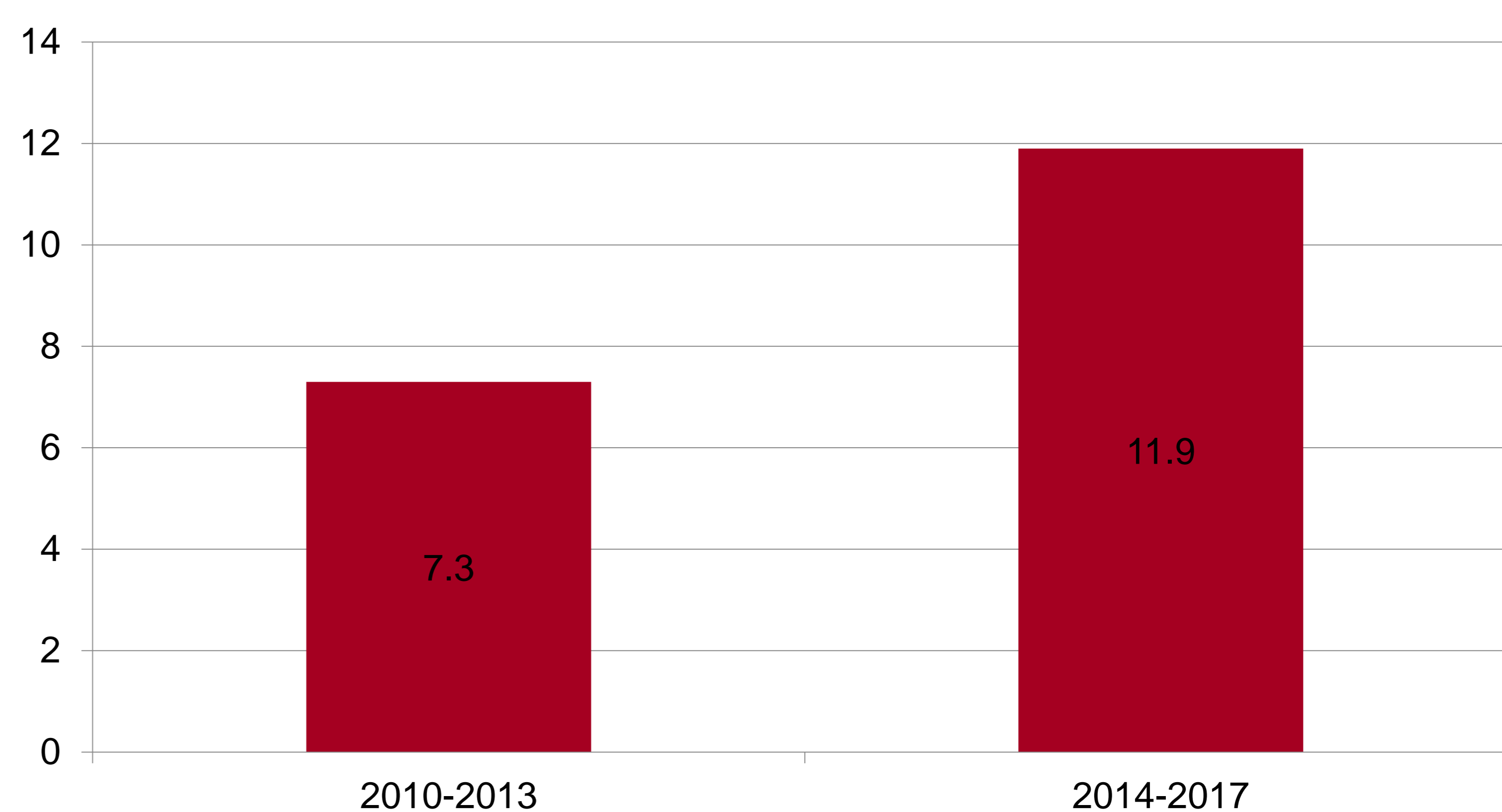


Figure 1. Rate of Syphilis co-infection during a four-years period

| Characteristic | HIV mono-infection N (%) | Syphilis co-infection N (%) | PValue |
|---------------------|--------------------------|-----------------------------|--------------|
| Total | 434 | 45 | - |
| Male | 311 (71.7) | 44 (97.8) | 0.038 |
| Age | 38.0 | 41.0 | 0.577 |
| Foreign born | 180 (41.5) | 7 (15.6) | 0.474 |
| MSM | 143 (32.9) | 33 (73.3) | 0.006 |

Table 2. Risk factors for Syphilis co-infection

Conclusions

The study shows that the number of diagnosis of HIV infection has remained stable in the last years, and a reasonable proportion of diagnosis of co-infection with Syphilis has not changed, particularly it occurred about in one fifth of MSM.

These conditions show a low perception of risk transmission of both infection in MSM. Additionally HIV infected patients seems not to reduce their sexual risk behavior as shown in Syphilis re-infection.