Recent HIV Infections in Men having Sex with Men in Germany
Results from the German HIV Incidence Study

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Background

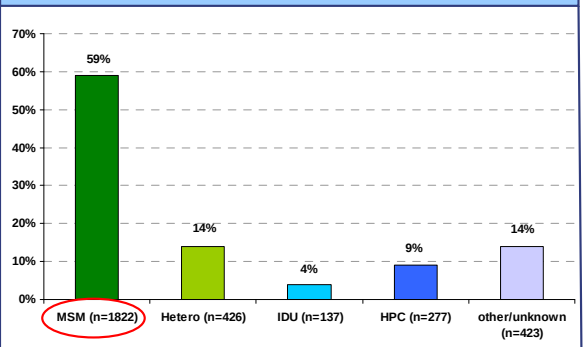
In the last decade the number of men having sex with men (MSM) newly diagnosed with HIV has been constantly increasing in Germany. The diagnosis of HIV does not provide sufficient information about the point of time when an individual contracted HIV. However, to get a better understanding of the dynamics and changing patterns of the HIV epidemic among MSM, it is crucial to collect data on the recency of HIV infection. Using the data of the nationwide incidence study, we explored factors associated with recent infections (RI) among MSM.

Methods

From March 1st 2008 – March 31st 2010 socio-demographic, clinical and laboratory data, as well as transmission group category (TGC) was collected from a representative sample of newly diagnosed HIV infections reported to the national surveillance system. Dried serum or plasma spots were tested for recency of infection (<5 months) using the BED IgG-capture ELISA, defining a RI as contracted less than five months ago. Proportions were compared using standard chi-square test and logistic regression was performed.

Results

Figure 1: Study Population by TGC



Hetero=men/women with heterosexual transmission **IDU**=intravenous drug users, **HPC**=men/women with heterosexual transmission and originating from high prevalence countries

- 3,082 samples of newly diagnosed HIV infections were obtained, corresponding to 51% of all 6,030 newly diagnosed cases in that time period.
- The majority of the study population were MSM (59%; n=1,822) (figure 1) and 83% of MSM were from Germany or Western Europe.
- Proportion of RI among newly diagnosed MSM was 34% compared to 29% overall.
- Recency proportion was significantly higher in MSM than in persons who contracted HIV through heterosexual contacts (24%) (OR=1.5; 95% CI [1.3-2.1]) (figure 2).

Figure 2: Proportion of RI by mode of transmission

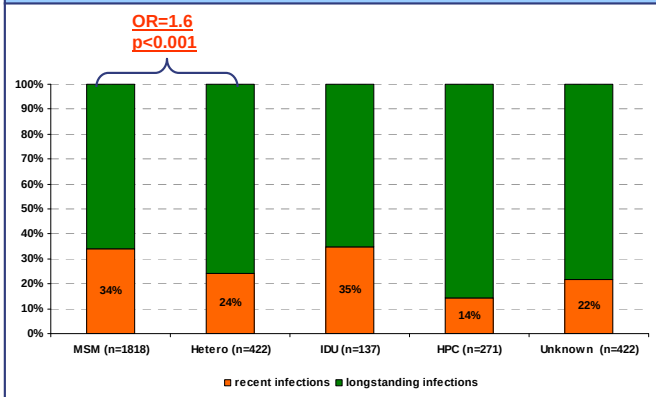
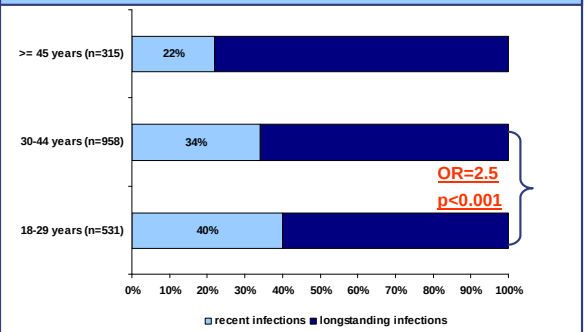


Figure 3: Proportion of RI in MSM by age



- Age was associated with RI, with young MSM (18–29 years) having a higher risk of RI compared to the age group 30-44 years (OR=2.5; p<0.001) (figure 3).
- MSM living in smaller cities (<250,000 inhabitants) were less likely to have RI compared to MSM living in bigger cities (>250,000 inhabitants), which was significant in the age group >44 years (OR=1.3; p=0.03) (figure 4).

Figure 4: Proportion of RI in MSM by city size and age

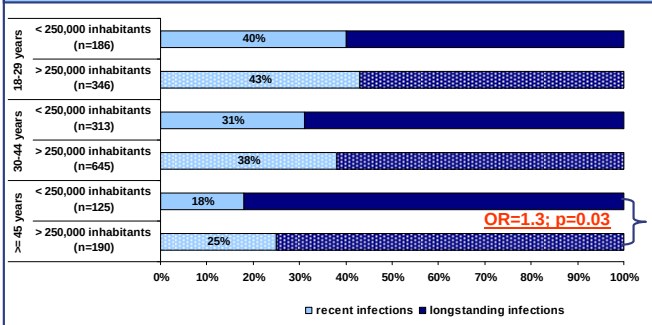


Table 1: Results of multivariate analysis

Variable	Number of observations	Odds Ratio	p-value	95% CI
Age (year)	1804	0.97	<0.005	0.97-0.98
Age (5 years)	1804	0.87	<0.005	0.97-0.98
Previous test (7-12 months ago) *	851	4	<0.005	2.6-8.8
Previous test (13-24 months ago) *	851	3.1***	<0.005	1.8-5.1
Viral load (>500,000 copies/ml) **	321	9.1****	<0.005	3.5-23.7
CD4 count (>500 copies/ml) **	321	6.3*****	<0.005	2.3-17.2

- In multivariate analysis, neither number of previous HIV tests nor nationality was associated with RI.
- Proportion of RI decreased steadily with increasing age (OR_{5years}=0.87; p<0.001).
- Short time span between the last negative test and HIV-diagnosis increased probability for RI (6 months: OR=4.7; 12 months: OR=4; p<0.001).
- High viral load and CD4-count were associated with RI (OR=9.1 95% CI [3.5-23.7]; OR=6.3 95% CI [2.3-17.2]

*Variables included: previous test, age linear, **Variables included: previous test, age, viral load, CD4-count, ***Reference: >5 years, ****Reference viral load 10,001-100,000 copies/ml, *****Reference: CD4 count<201 copies/ml

Conclusions

More than one third of newly diagnosed MSM in this study were diagnosed within five months after infection and thus, MSM are the TGC with the highest proportion of RI, indicating either frequent testing or ongoing transmission in that group or both. The results of this study suggest that MSM, especially under 30 years of age, seem to be aware of the importance of early testing. To decrease the number of MSM diagnosed at late stages of HIV infection, efforts to raise awareness for the importance of testing on a regular basis in all age groups should be continued and easy access to HIV testing also in smaller cities should be guaranteed. Campaigns such as “ICH WEISS WAS ICH TU” (“I know what I am doing”) (IWWIT) by the German AIDS foundation that are designed to motivate MSM to get tested for HIV are a step in that direction. To further explore trends in patterns of the HIV epidemic among MSM and in other TGC, ongoing surveillance of RI among newly diagnosed cases is crucial.

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