

In recent decades, HIV infection has become one of the most important public health issues in the world. According to UNAIDS, an estimated 37 million people in the world were infected in 2018. In Estonia, HIV diagnosis rate has been one of the highest in the European Union for years. The overall aim of the work was to describe the situation of the HIV epidemic in Estonia. We included all patients in the Estonian HIV-positive database (E-HIV) in order to study the evolution of demographic characteristics over time. All newly diagnosed HIV cases in 2013 were included in the recent infection, HIV incidence (Prejean mathematical method) and drug resistance study. We evaluated the prevalence of HIV subtypes and drug resistance mutations, and by phylogenetic analysis we investigated the occurrence of transmission clusters.

Of those diagnosed in 2013, 36% were recently infected. According to Prejean's mathematical method, the HIV incidence in Estonia in 2013 was 625 possible transmissions, significantly higher than 325 officially diagnosed cases. In our opinion, the mathematical method used overestimates the number of possible infections. A rare HIV-1 subtype, CRF06_cpx, is still predominant in Estonia, accounting for 83% of viruses. All CRF06_cpx viruses are genetically linked, demonstrating the spread within Estonia. Eleven percent (25/224) of viruses clustered together, which is significantly lower than other countries. Despite a significant upscale of antiretroviral treatment, the proportion of transmitted drug resistance is stable, the most important mutation being K103N. Among the drug resistant viruses, there were only a few transmission pairs indicating that there are marginal resistance clusters.

In conclusion, we recommend broader HIV testing in the affected area (Tallinn, Ida-Viru County) with the availability of pre-exposure prophylaxis (PrEP). The detection of recent infections among the newly HIV diagnosed subjects should be a part of the surveillance, probably reflecting the best and most accurate changes in the epidemic. We recommend resistance testing at the time of diagnosis or retaining blood for later testing in the case of virological failure.