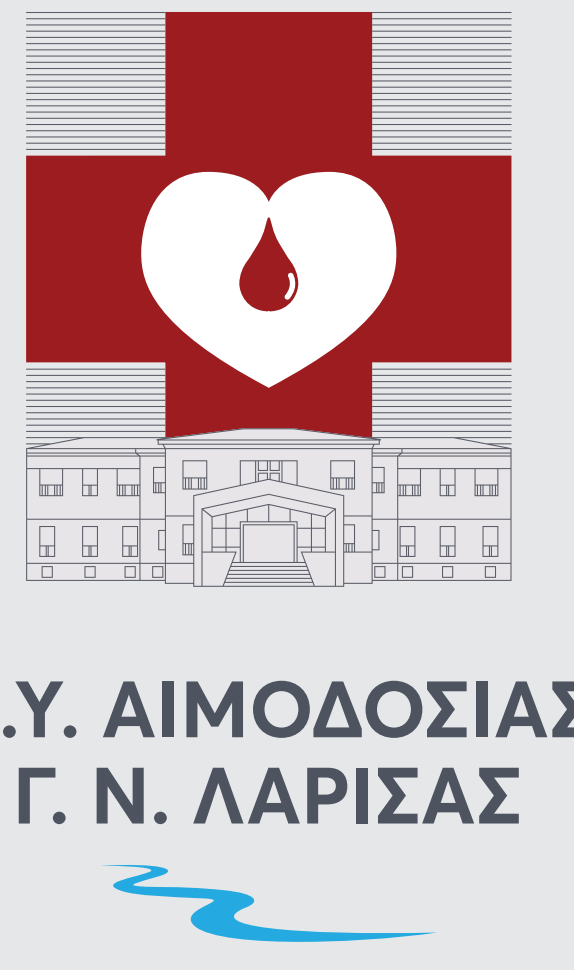


CHARACTERISTICS OF BLOOD DONORS WITH POSITIVE MARKERS FOR TRANSFUSION-TRANSMITTED INFECTIONS IN A REGIONAL BLOOD DONATION SERVICE OF CENTRAL GREECE. 2015-2023



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Introduction

One of the critical components of haemovigilance systems is the epidemiological data of donor population as the possibility of transmission of infection by transfusion depends on epidemiology of infections in the blood donor population. The detection, management of TTIs positive donors and the recognition of those who continue to give blood are of major importance for both donor and recipient safety and minimizes the actual loss of blood units.

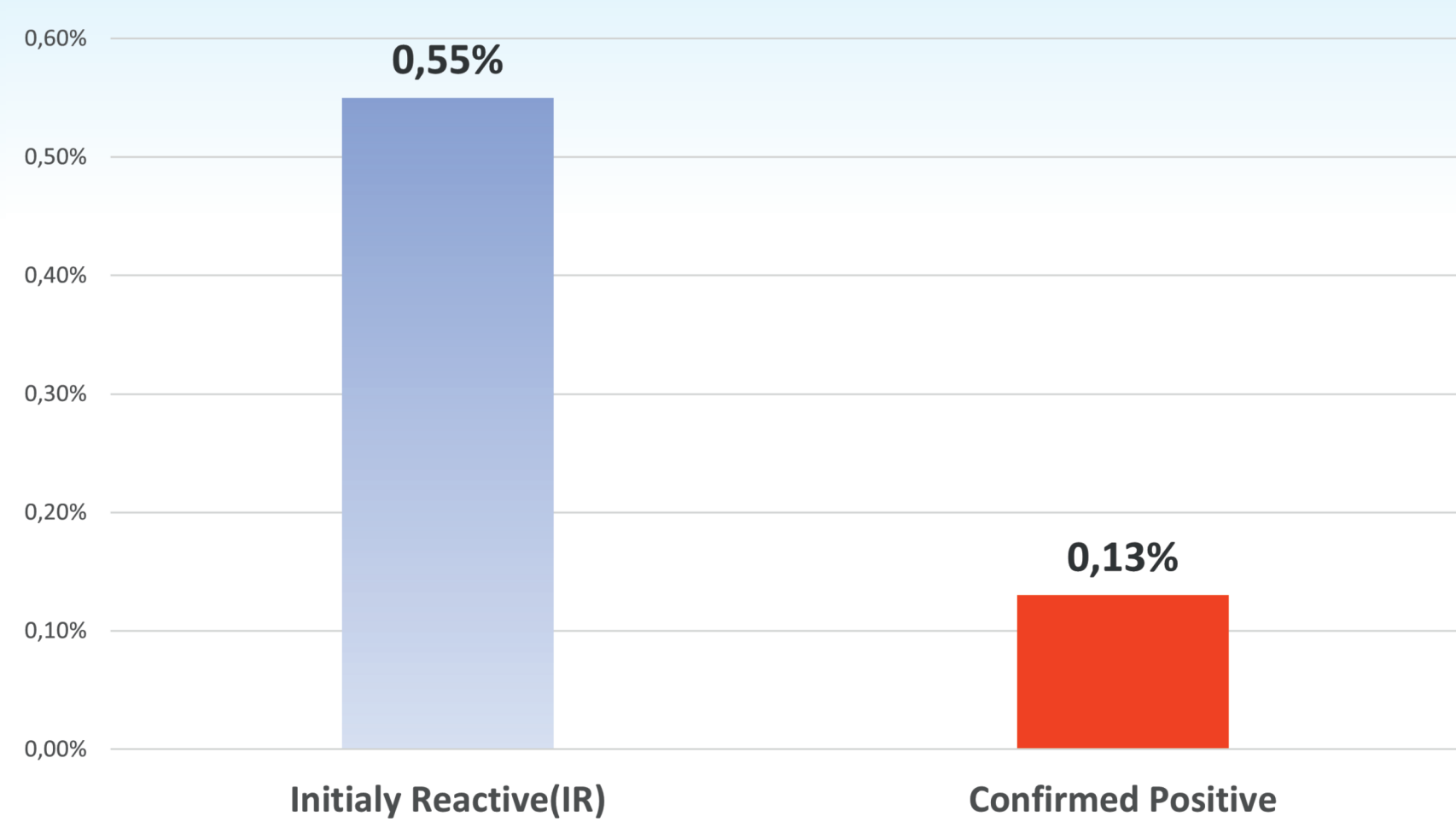
Aim

- To determine the prevalence of HBV, HCV, HIV, HTLV, Syphilis among donations of our area.
- To assess the effectiveness of blood donation counseling of TTIs positive donors.
- To get better understanding on donor behaviour so as to improve the information mechanism and the appropriate measures and corrective actions, in order to handle appropriately donors, targeting their exclusion from blood donation.
- To identify gaps and challenges in the pre- and post-donation counselling-practice.

Materials and Methods

114,272 samples from blood donations collected in our Service through 9 years, from which 72% derived from volunteer donations (VD) and 28% derived from replacement donations (RD), were tested in the Blood Center of AHEPA (Thessaloniki). Positive confirmed donors and those with discordant results were recalled for additional testing, post-donation counselling and referral for further medical evaluation. They were classified according to age, gender, type of donor, ethnicity, number of donations, history of previous blood donations and risk factors. Our data was taken from our registries of post-donation counselling, the records of discarded blood units, the annual reports to the Hellenic Coordinating Haemovigilance Centre (SKAEM) and the digital records of donors accepted for donation in our Service.

Overall positivity (N=150) of TTI markers out of 633 initially reactive donations



Among them (N=145 donors), 76% were males and 24% were females.

Yearly prevalence of TTI + ve donations in 114,272 collected blood units

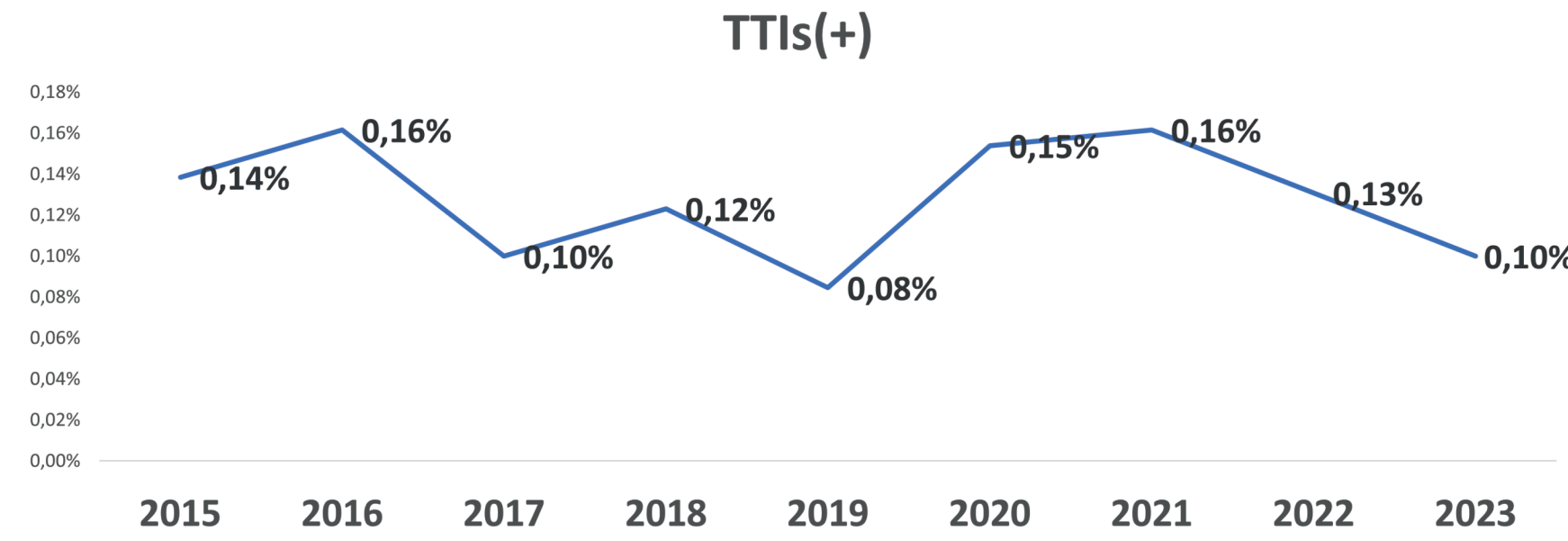


Table 1: Prevalence of all TTIs, by Donation History 2015-2023

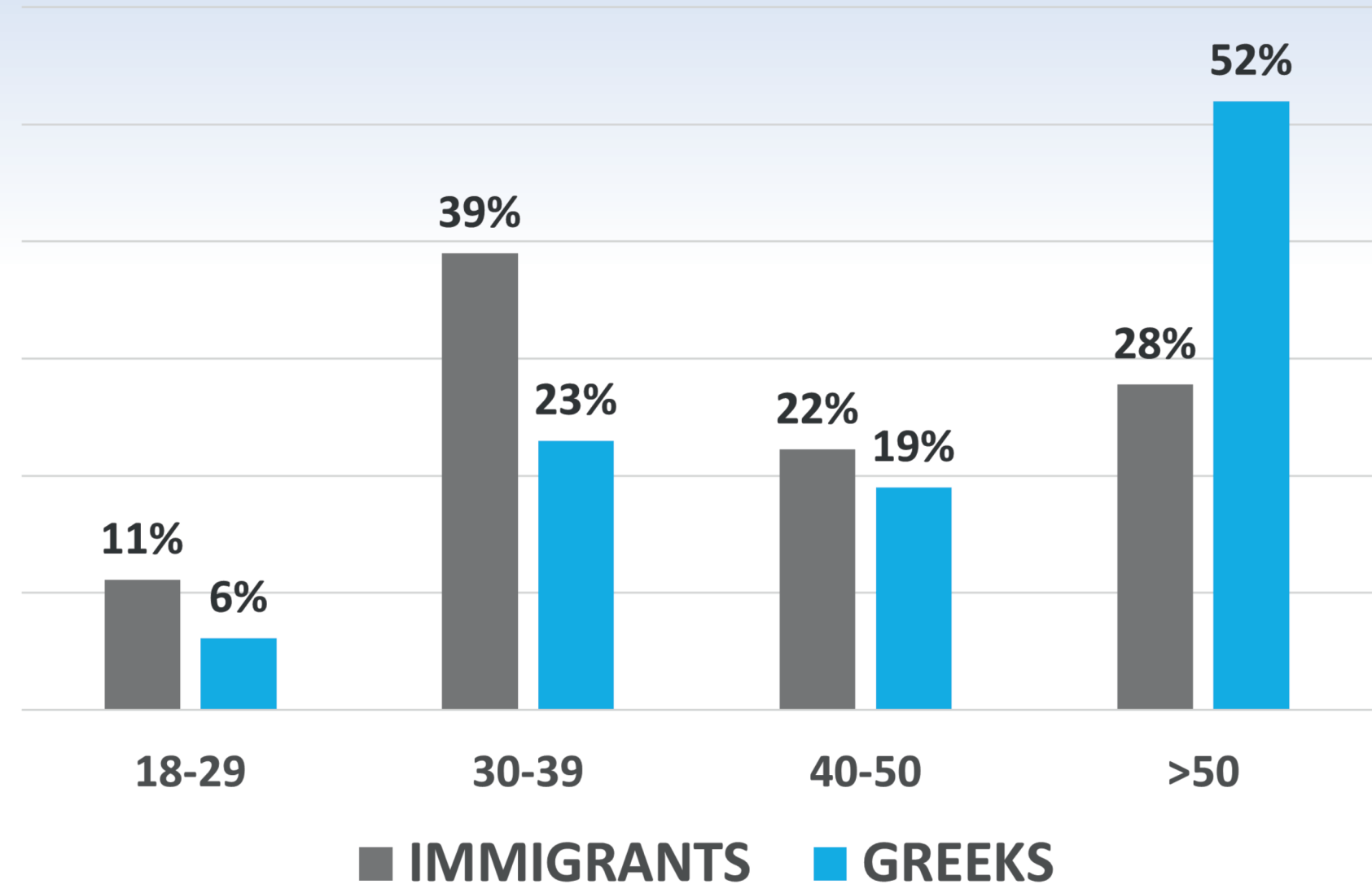
First time donors	Repeat donations
8.3 :1,000	0.76:1,000

The overall seroprevalence was 8.3:1000 in first-time donors versus 0.76:1000 in repeat donors, even though they comprise only 7% of the total collected blood units.

Table 1: Prevalence of TTIs ve(+) by type of donations

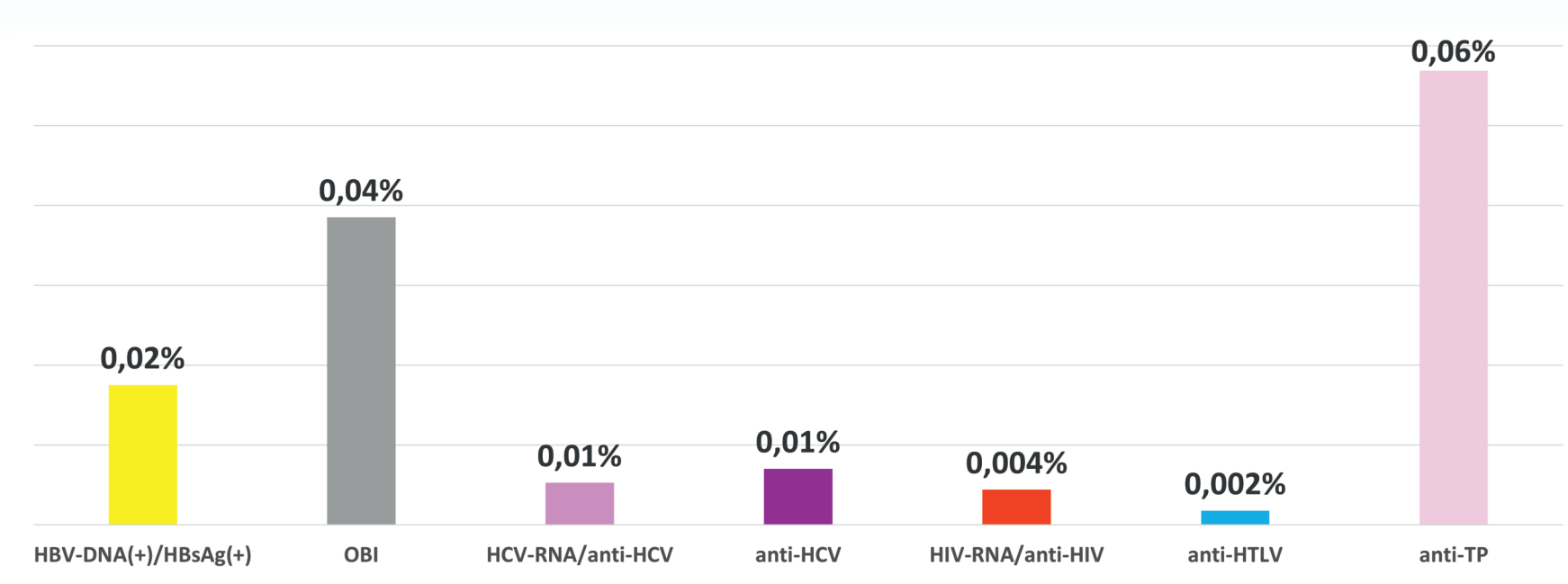
replacement donations	Voluntary donations
0.25% (1 per 400)	0.09% (1 per 1110)

Distribution of +ve donations by age and ethnicity



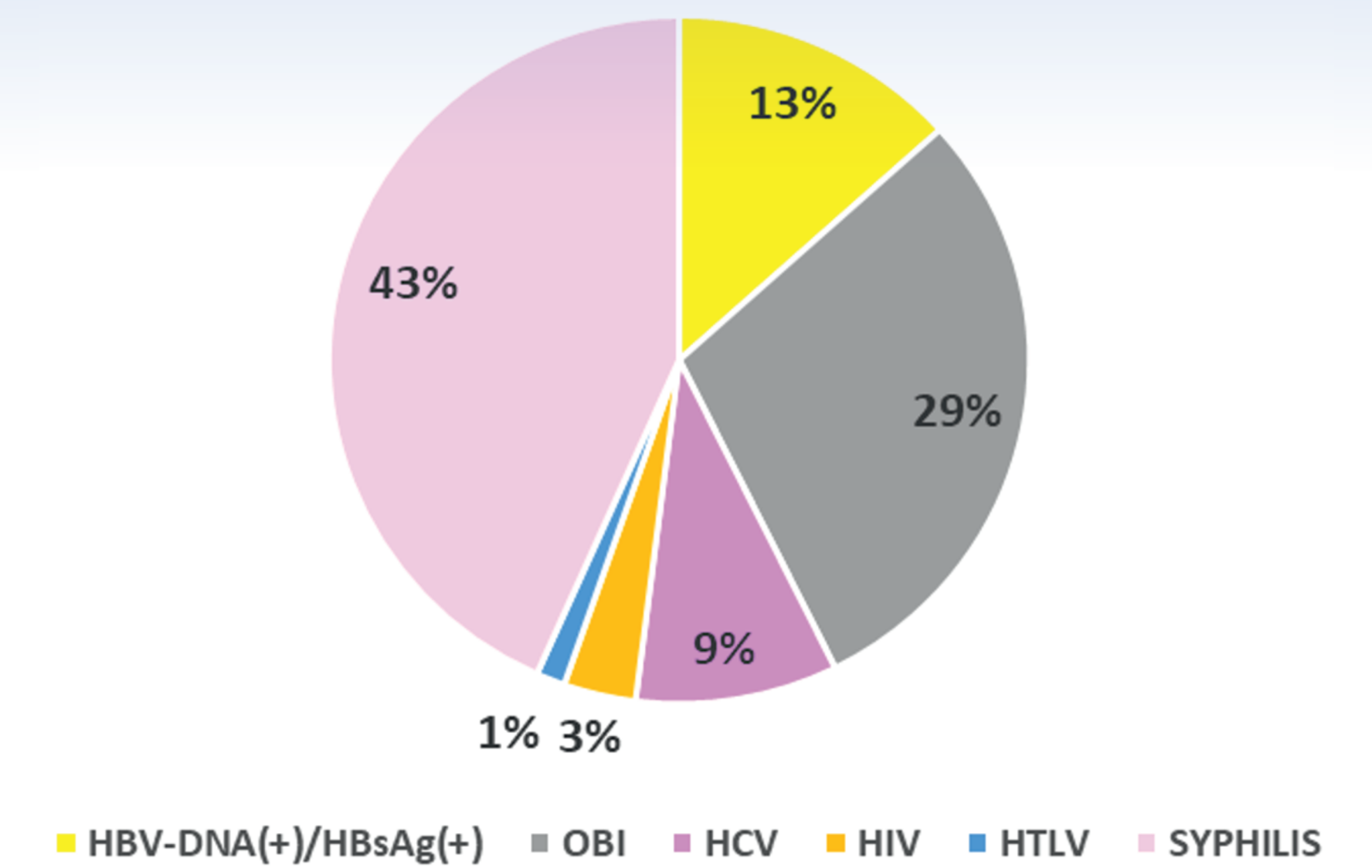
By age group, the majority of infections accounted for 52% in Greek -ve+ donors >50 years old. In the immigrant group, the positivity rate was 50%, for donors aged 18-34, versus 29% in the Greek population.

Prevalence by category of infection in blood donations N=114272

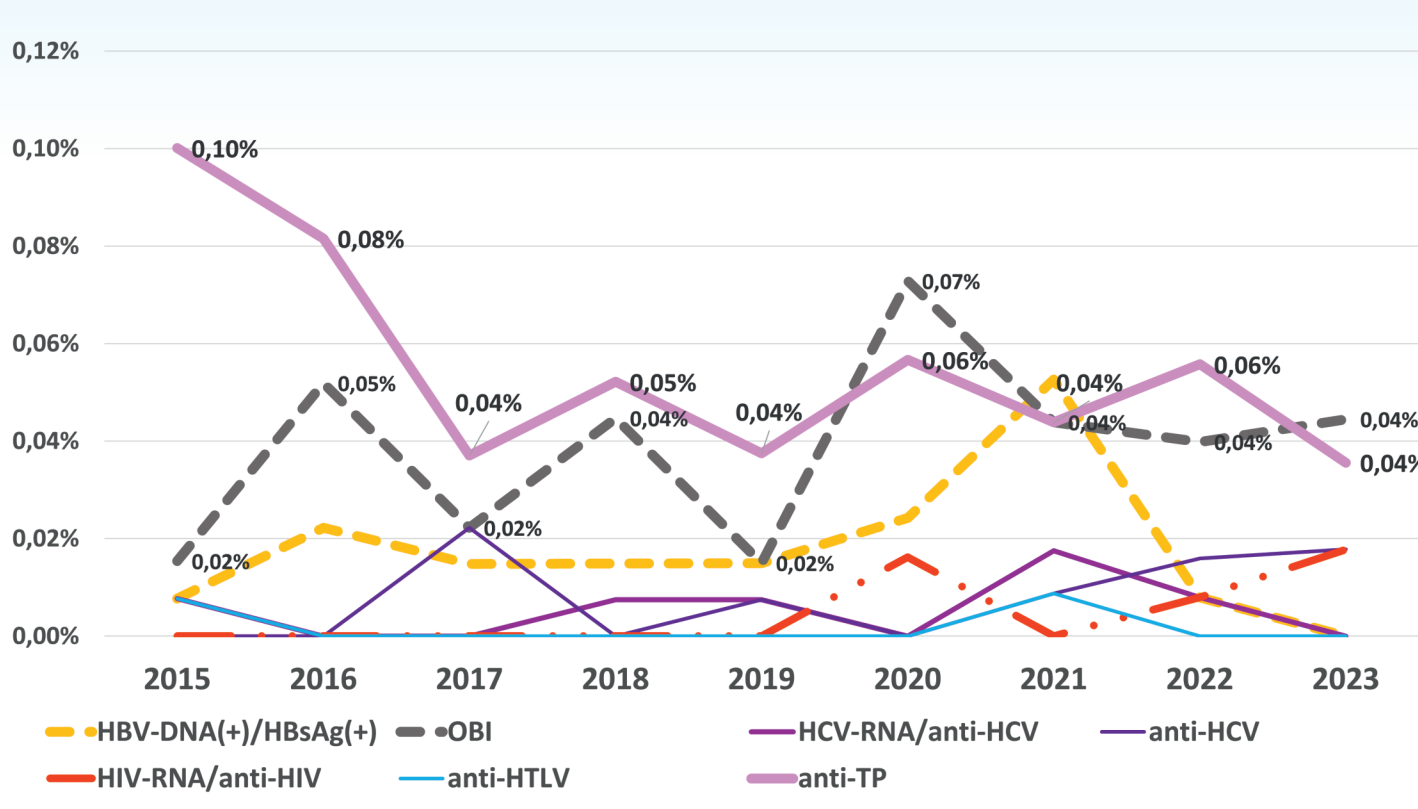


Among reactive units, Syphilis and HBV positivity were the most common.

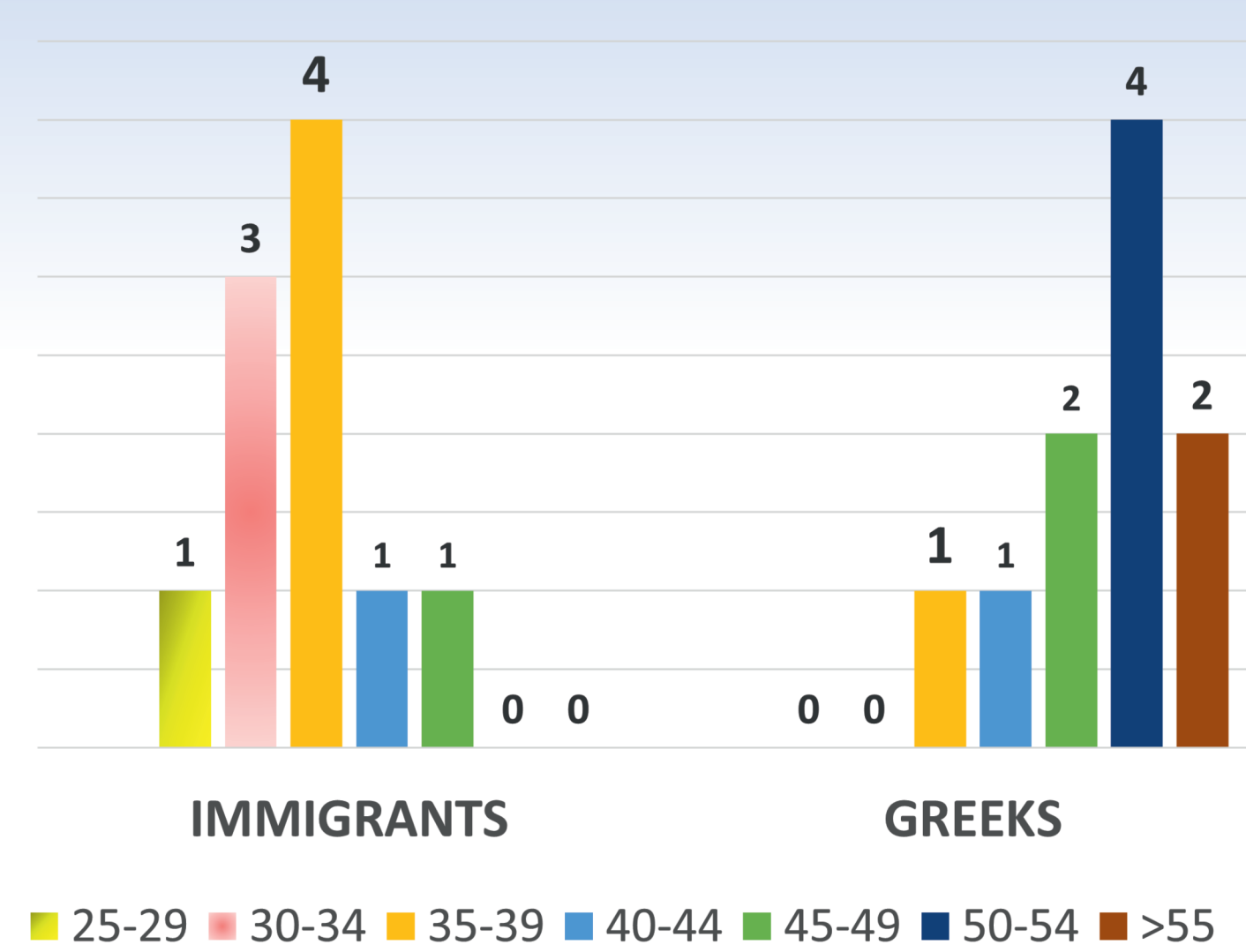
Contribution by category of infection N=150 TTIs(+)



Yearly prevalence by category of TTIs, among blood donations

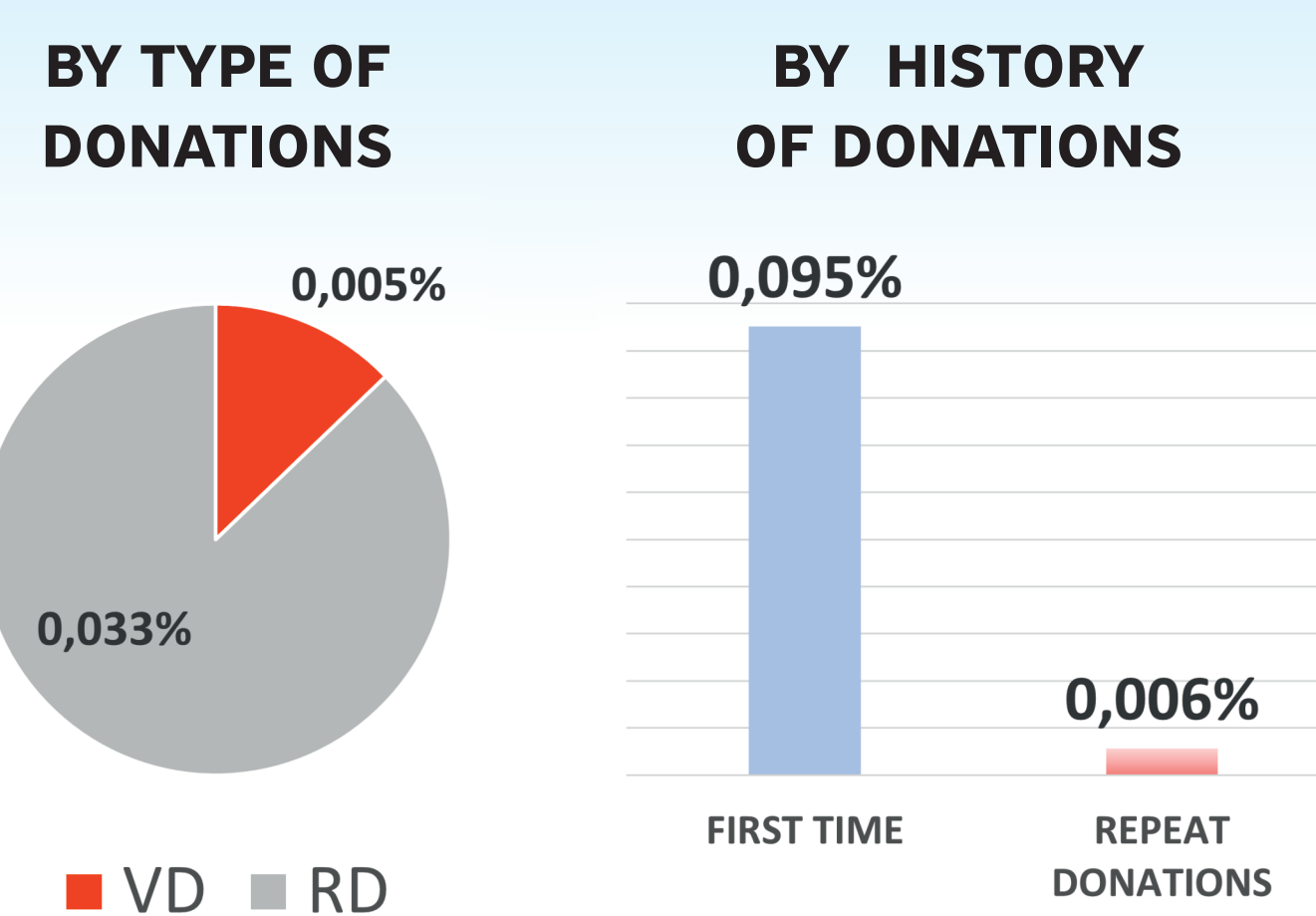


HBV-DNA/HBsAg positivity by age and ethnicity



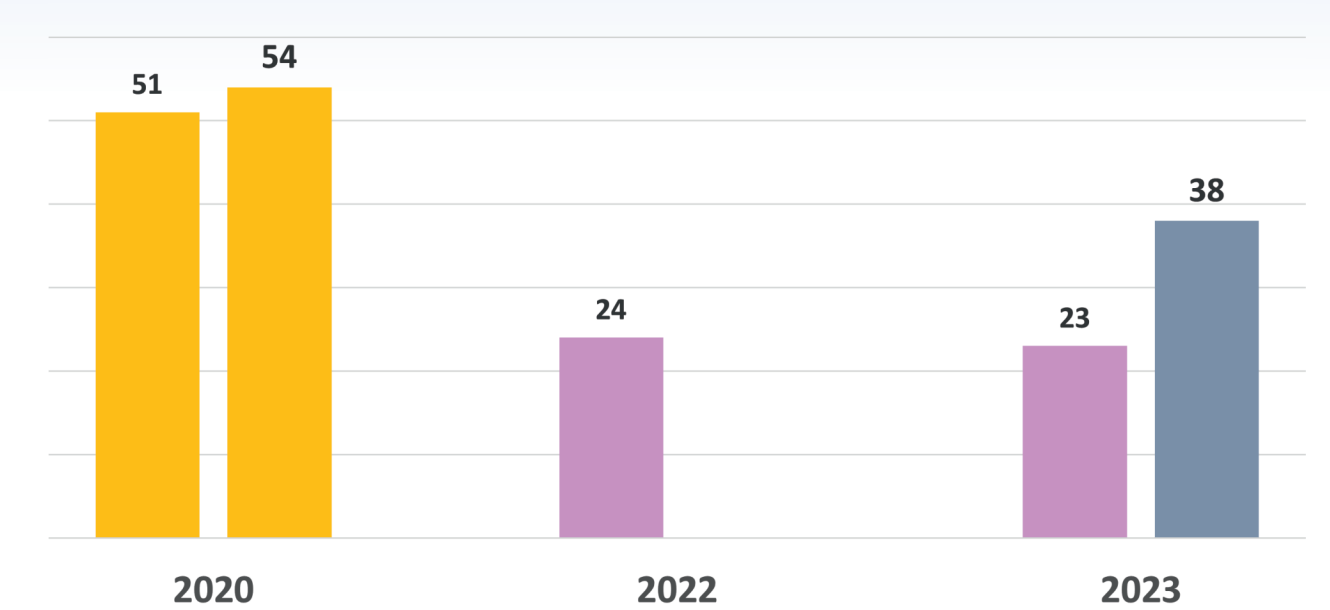
80% derived from replacement donors and 20% from volunteer donors. Among them, 85% were males and 15% were females.

FREQUENCY OF HCV INFECTED DONORS



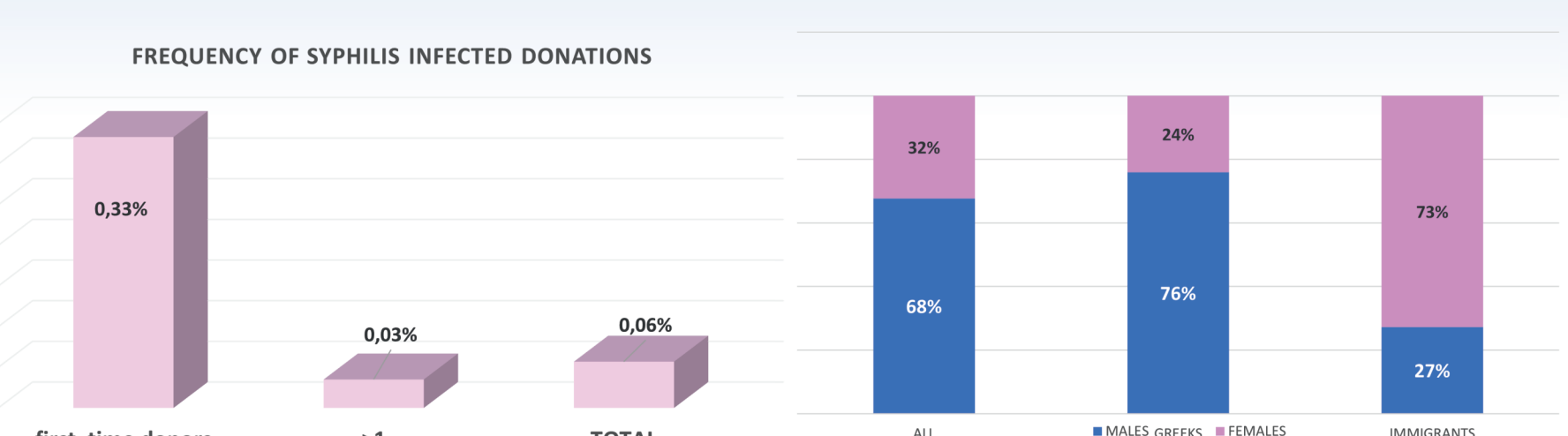
8403 first time donors were enrolled in the study period (2015-2023)

HIV DISTRIBUTION BY AGE AND BY YEAR



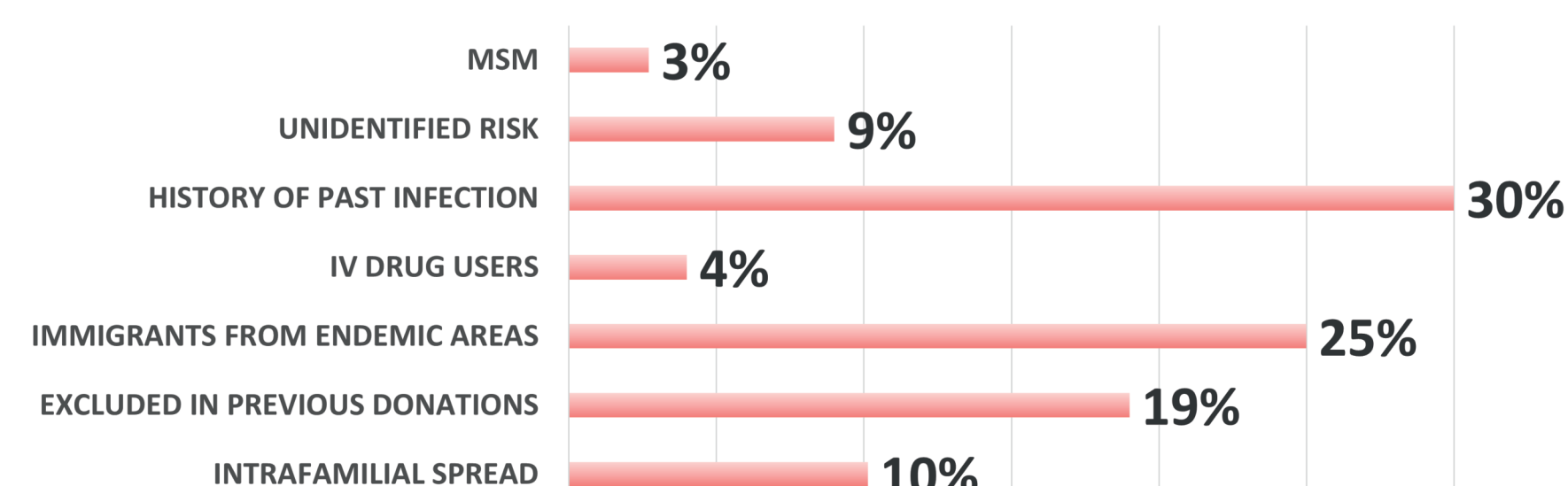
All the 5 cases were males and detected after 2020 (COVID-19 period)

Distribution of confirmed syphilis cases by gender, frequency of donors and ethnicity



The cumulative number of Syphilis infected units was 65, corresponding to 62 donors (actual prevalence=0,05%).

Risk factors for acquiring infections



The observed response rate after notification for retesting and counselling was 78%.

CONCLUSIONS

Despite improved donor information and counselling procedures, some donors with high-risk behaviour still donate. Blood donors do not always answer the questionnaire honestly

As minimising non-compliance of TTIs positive donors is an organisational imperative, our Blood Service continually reviews the donor assessment process for potential improvements. Further research is required to understand various other factors contributing to knowledge, awareness, attitudes and behaviour regarding blood donations, which will help to plan future actions.