

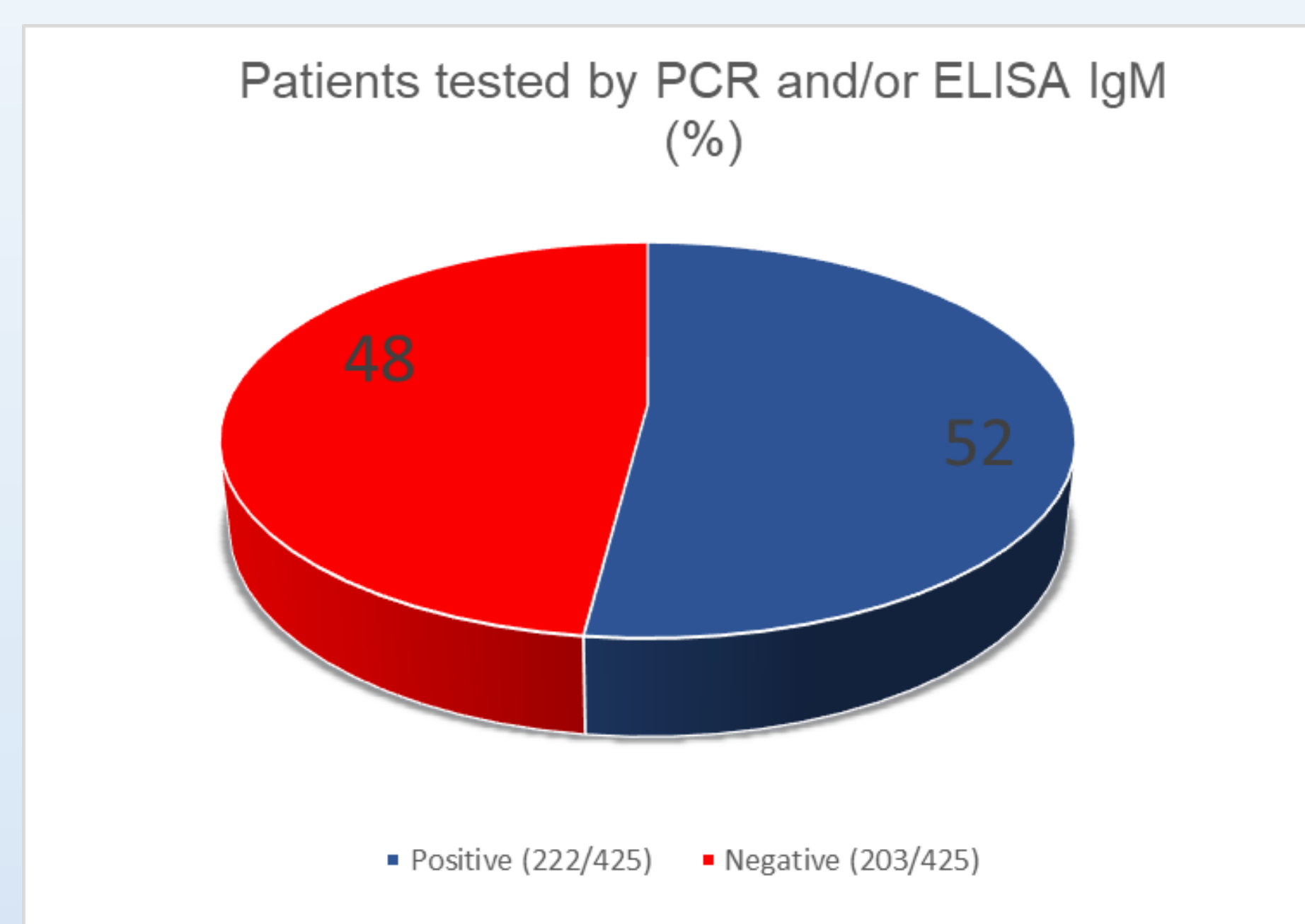
Spread of parvovirus B19 in Latvia in winter - spring of 2024

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BACKGROUND. Outbreaks of parvovirus B19 (B19V) infection are observed periodically, every four to ten years. People tend to get infected with B19V more frequently at the end of winter, in spring, and at the beginning of summer. The last B19V infection outbreak in Latvia was in 2018 (around 30% positive). From 2019 to 2023, 4% of samples tested were positive for B19V, whereas in 2024, this percentage rose to 52% of samples.

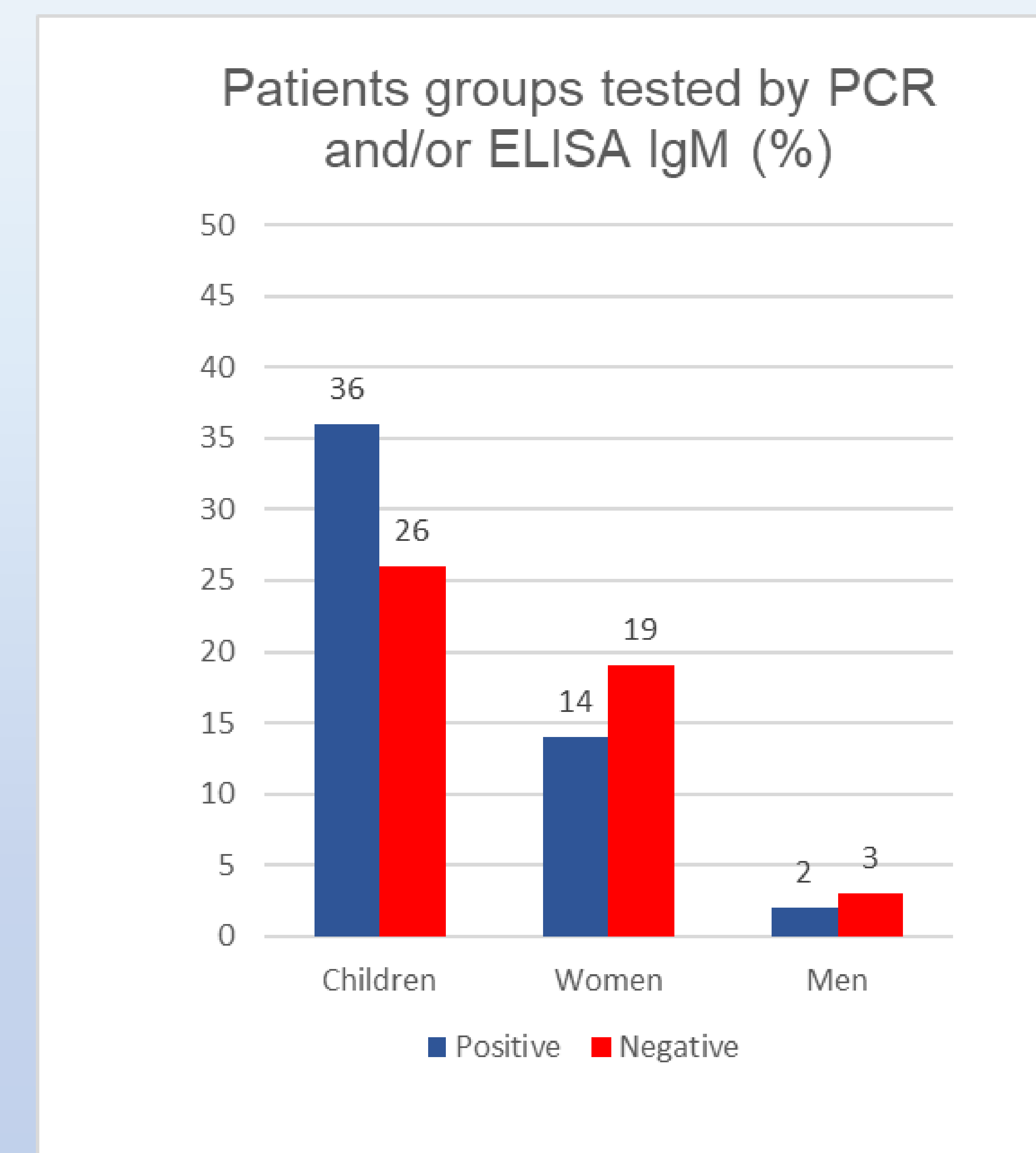
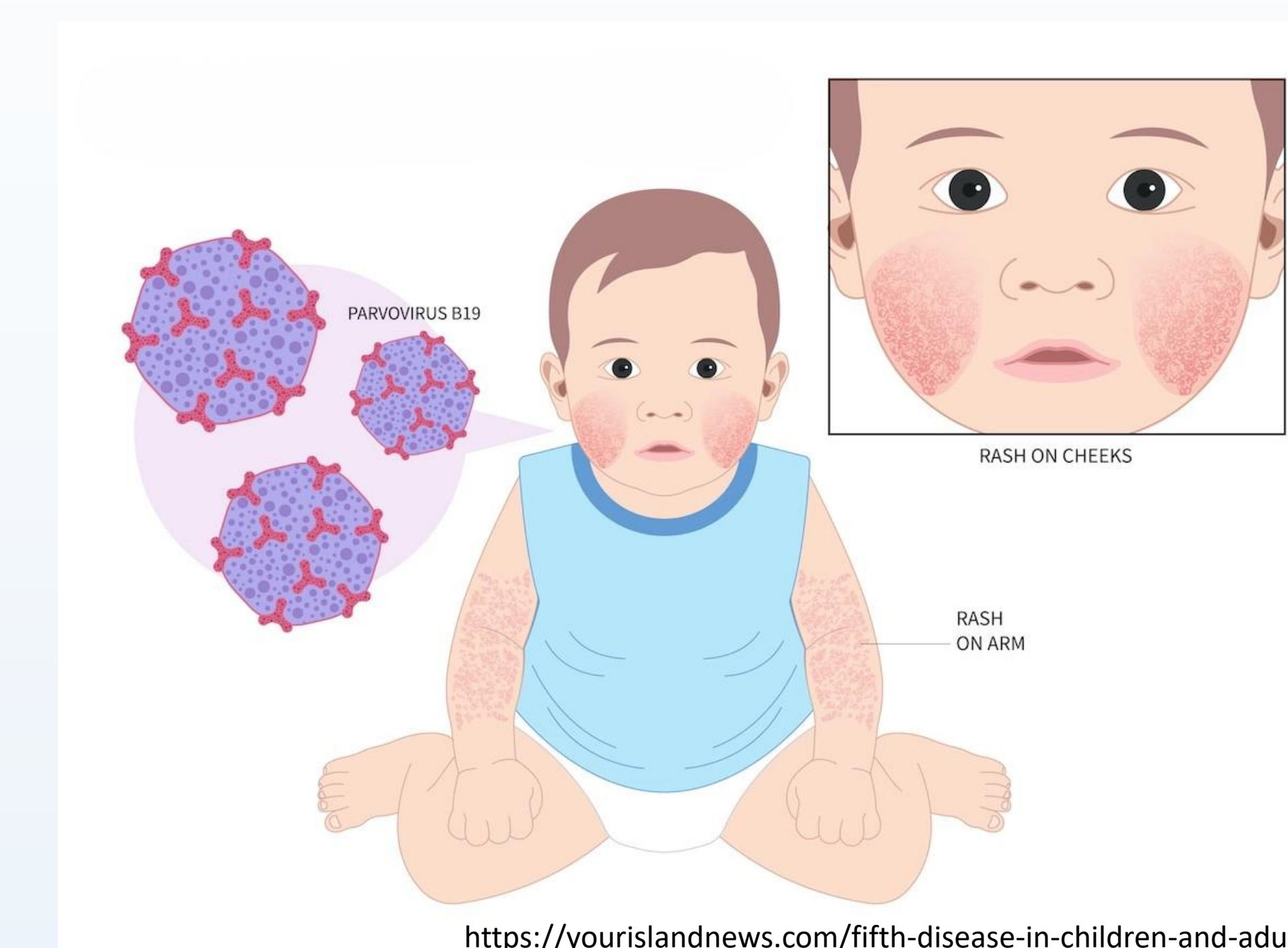
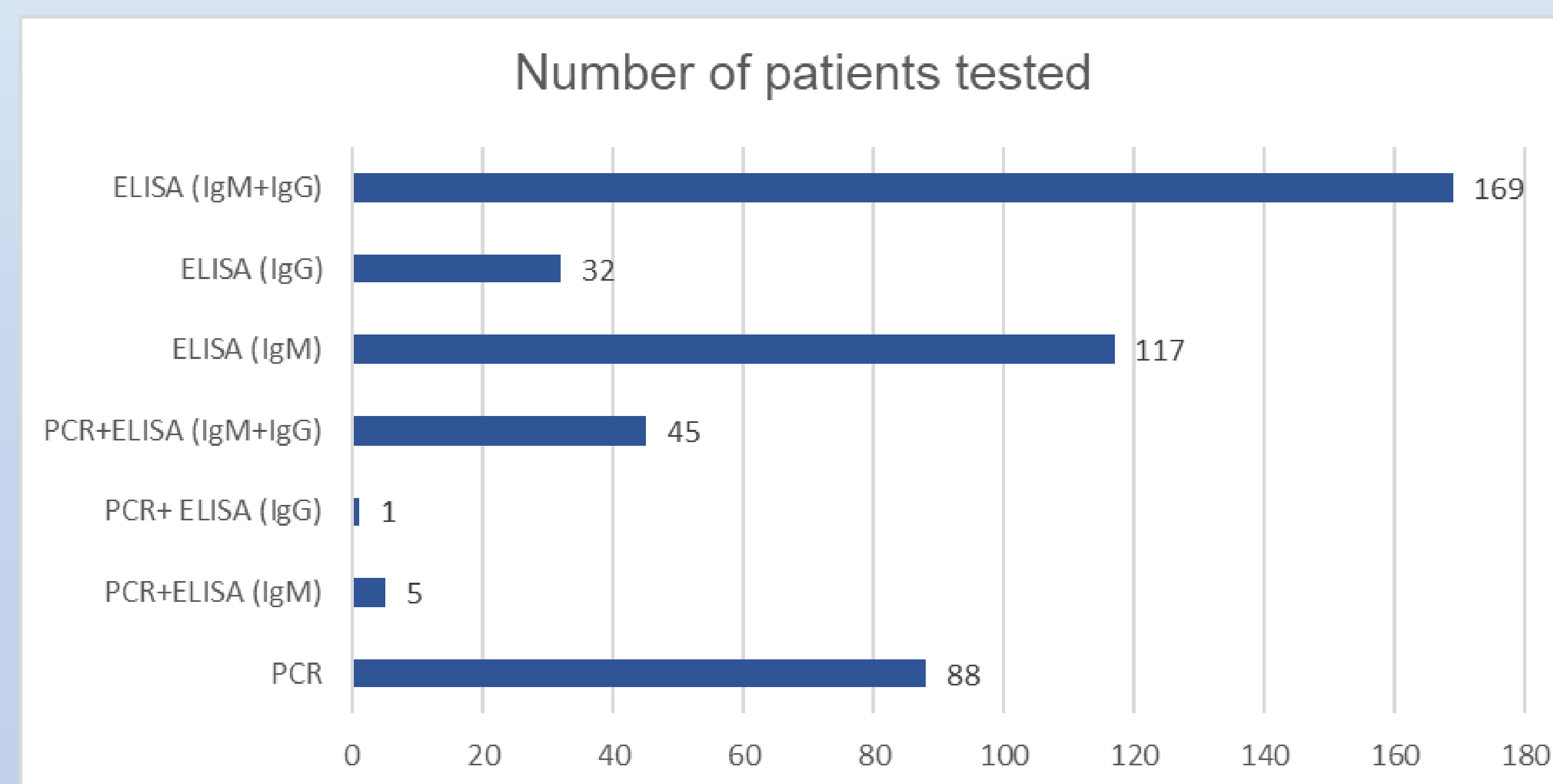
Detailed epidemiological analysis is lacking because B19V is not under strict surveillance in most countries. Available data indicates that in the spring of 2024, several countries experienced an increase in infection rates.

OBJECTIVES. This study provides an analysis of the B19V outbreak in Latvia during the first quarter of 2024.



METHODS. During the B19V outbreak in Latvia from January 1 to March 31, 2024, clinical samples from 457 patients (children 59%, women 36%, and men 5%) were tested at the National Microbiology Reference Laboratory (NMRL). Among these, 45 patients were tested using both PCR and ELISA (IgM and IgG), 5 patients with PCR and ELISA (IgM), 1 patient with PCR and ELISA (IgG), 88 patients only with PCR, 169 patients with ELISA (IgM and IgG), 117 patients only with ELISA (IgM), and 32 patients only with ELISA (IgG). Urine, saliva and blood samples were tested for B19V DNA using real-time PCR. Blood samples were tested using the ELISA method to detect B19V IgM and IgG antibodies.

RESULTS. B19V infection was laboratory confirmed by real-time PCR (positive in 70/139 - 50%), ELISA IgM (positive in 163/336 - 49%), and ELISA IgG (positive in 175/247 - 71%). Overall, 52% (222/425) of patients tested by PCR and/or ELISA IgM were laboratory confirmed positive for B19V. Among children, B19V was positive in 36% (153/425) and negative in 26% (110/425) when tested by PCR and/or IgM. Among women, 14% (60/425) tested positive and 19% (79/425) tested negative. Among men, 2% (9/425) tested positive and 3% (14/425) tested negative. IgG antibodies were not tested in 71 out of 457 patients, which is 16% of the total.



CONCLUSIONS. At the beginning of 2024, 92% of positive cases were observed in children and women aged 29 to 42 years. Considering these circumstances, the implementation of screening measures should be considered, especially for high-risk groups such as pregnant women. Laboratory confirmation would be crucial to differentiate B19V infection from other infectious diseases that also present with rashes (measles, rubella, HHV6, etc.).