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BOOK OF ABSTRACTS

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LEGIONELLA PNEUMOPHILA SEROPOSITIVITY ASSOCIATED FACTORS IN LATVIAN BLOOD DONORS

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Continuous environmental *Legionella* exposure may induce immune response and cause the formation of antibodies, which may persist in a measurable level for several months and even years. The aim of study was to investigate the seroprevalence of *L. pneumophila* Sg.1-6 in general healthy population in Latvia and to determine host-related and environmental risk factors. Blood samples were collected from 2007 donors during the period from February 2014 till October 2014. Donors were asked to complete questionnaire about residential, self-reported health and relevant exposures during past year. Samples were tested for IgG and IgM *L. pneumophila* Sg.1-6 antibodies by indirect immunoenzyme assay. Overall seroprevalence of *L. pneumophila* was 4.8%. Seroprevalence among women (5.9%) was higher than in men (3.3%). Seroprevalence increased in areas with larger number of inhabitants (from 3.5% in rural areas up to 4.1% in cities with population under 25 000 people and 6.4% in bigger cities). Inhabitants of apartment buildings were positive more often (5.8%) than inhabitants of single-family homes (2.7%). Univariate analysis revealed various risk factors, including gender (OR = 1.9, 95% CI 1.2-2.9 for females vs males), type of residence (OR=2.2, 95% CI 1.3-3.8 for inhabitants of apartment buildings vs inhabitants of single-family homes) and size of residence city (OR = 1.2, 95% CI 0.7-2.2 and OR = 1.9, 95% CI 1.2-3.0 for donors from small and big cities vs donors from rural areas). Residents of buildings with municipal hot water supply system were more likely to be positive (OR = 3.2, 95% CI 1.3-7.9). Previous episodes of fever were identified as a risk factor (OR = 2.4, 95% CI 1.4-4.1) while pneumonia and bronchitis were not associated with overall seropositivity. Identified risk factors were included in multivariate logistic regression model. Results showed that main risk factors for *L. pneumophila* seropositivity were type of hot water supply system, gender and previous fever episodes.