

## Respiratory infections

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### **Serological analysis of anti-haemagglutinin antibodies as a confirmation of circulation of particular types of influenza virus in Poland in the epidemic season 2015/2016.**

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Diagnostic of influenza virus infections is possible using molecular biology methods as well as analysis of anti-haemagglutinin (anti-HA) antibodies level in the patient serum. The aim of the study was to determine the level of anti-HA antibodies among people in 7 age groups, during the epidemic season 2015/2016 in Poland. A total of 1050 sera were tested using the haemagglutination inhibition assay (HAI). The results confirmed the presence of anti-HA antibodies for following influenza virus strains: A/California/7/2009(H1N1)pdm09, A/Switzerland/9715293/2013(H3N2) and B/Phuket/3073/2013 which were components of the influenza vaccine in the 2015/2016 epidemic season. The analysis showed that the level of particular anti-HA antibodies was different for each age group. The highest values of the geometric mean titer were observed in the range 5-9 years of age. The protection level of the antibodies was recorded only for B/Phuket/3073/2013 antigen in the age group 5-9 years of age (61.33%). Slightly less were observed in the 45-64 age group (56.67%) for antigen B and in the age group 5-9 yrs. for antigen A/Switzerland/9715293/2013(H3N2) (52.67%). In the remaining age groups the protection values for all haemagglutinin types did not exceed 50%. The presented results confirm the low percentage of vaccination of the population in Poland in the epidemic season 2015/2016 (3.34% according to data from National Influenza Centre in Poland), which certainly contributed to the increase in confirmed cases of influenza and influenza-like viruses during analyzed season (Kowalczyk et al. 2017, Cieślak et al. 2017, Szymański et al. 2017).