## Abstract citation ID: ckad160.1025
## Vaccine-preventable diseases: evaluating immune response in a sample of Italian healthcare students

**Andrea Paladini**

*A Paladini[1], C Amantea[1], MF Rossi[1], C Fortunato[2], C Cadeddu[1], MR Gualano[3], P Laurenti[1,4], I Borrelli[1], PE Santoro[1,4], U Moscato[1,4]*
[1]Department of Life Sciences and Public Health, Università Cattolica del Sacro Cuore, Rome, Italy
[2]Department of Public Health, Marche Polytechnic University, Ancona, Italy
[3]School of Medicine, Saint Camillus International University of Health Sciences, Rome, Italy
[4]Department of Women, Children & Public Health, Università Cattolica del Sacro Cuore, Rome, Italy
Contact: apmed1994@gmail.com

**Background:**
Healthcare university students are exposed to a range of risk factors during their hospital practical training, particularly in relation to biological hazards. Despite being students, they must be paid the same attention as health professionals in relation to the same possibility of transmitting infections to fellow colleagues, patients, and the wider community.The primary aim of this study is to investigate the seroprevalence characteristics of IgG antibodies against main infectious diseases in students enrolled in medical and health-related degree programs in an Italian university.

**Methods:**
We conducted a retrospective epidemiological study of health professions students of a university hospital in Rome, collecting sociodemographic information and serology of antibody titers under study (hepatitis B, measles, mumps, rubella and varicella) from 2013 to 2023. After initial description of the study population, bivariate and multivariate analyses were performed to study the association between presence of antibodies with relevant variables.

**Results:**
Our study sample included 2523 students (68.5% females; mean age 22.2, SD 3.8), of which 44.4% were protected against HBV, 87.3% against measles, 85.5% against mumps, 94.6% rubella and 95.2% against varicella. Differences in antibody coverage between age groups were statistically significant ($p < 0.001$), with the exception of mumps. Surprisingly, the prevalence of HBV antibody titer below the seropositivity cut-off appeared to have an inverse correlation with older age (1998-99 OR 0.75 CI 0.61-0.93, 2000-01 OR 0.50 CI 0.41-0.62, 2002-04 OR 0.40 CI 0.31-0.52).

**Conclusions:**
Despite several recommendations and campaigns to promote vaccinations, the goal of achieving high immunization rates among healthcare workers still represents a challenge. Public health policies should focus on improving prevention strategies, including serological screening and workplace vaccination for non-immune individuals, especially for Hepatitis B.

**Key messages:**
- Improving prevention strategies, including serological screening and vaccination, is crucial to achieve high immunization rates among healthcare students, especially for Hepatitis B.
- Health profession students are at risk of exposure to infectious diseases during hospital practical training, and the prevalence of immunity varies among different age groups.