Background Measles, rubella, and varicella-zoster are vaccine-preventable diseases that have the potential of transmission in healthcare settings. Healthcare professionals are at high risk of exposure to these viral diseases and should be immunized. Screening and vaccination of newly recruited healthcare workers (HCWs) is considered a cost effective intervention. All newly recruited HCWs are required to have physical and serological assessment before they start working. Serology screening covers several vaccine-preventable diseases including measles, rubella, and varicella. This study aimed to identify the immune status to these diseases among the newly recruited HCWs at King Abdulaziz Medical City, Jeddah (KAMC-J).

Methods A retrospective review of the employees’ medical records was conducted. Data were extracted from the electronic medical records and database of pre-employment assessment. Data were collected on demographic data (age, sex, and nationality) and IgG antibodies of measles, rubella, and varicella-zoster virus.

Results During the study period, 673 newly recruited HCWs were screened. The mean age was 26.5 (SD 5.5) years, and two-thirds (63%) of the participants were female. The majority of participants were immune against measles (87.3%), rubella (87.8%), and varicella (93.2%). Immunity (positive IgG) against measles, rubella, and varicella was higher in females than in males. Similarly, measles and rubella IgG was higher in older participants (older than 25 years of age); however, varicella IgG was higher among younger participants (25 years old or younger). Measles-positive IgG ranged from 78.9% to 96.9%; the lowest was among non-clinical HCWs and the highest was among nurses. Rubella-positive IgG ranged from 85.7% to 93.8%; the lowest was among allied health staff and the highest was among nurses. Varicella-positive IgG ranged from 91.2% to 95.5%; the lowest was among allied health staff and the highest was among physicians. Among the new Saudi employees, prevalence rates of IgG for measles, rubella, and varicella were 85.1%, 86.7%, and 93.1%, respectively, which were lower than those for non-Saudi HCWs.

Conclusion This study revealed good immunity coverage for measles, rubella, and varicella among newly recruited HCWs; however, the allied health staff and non-clinical HCWs should receive more attention to optimize their vaccination status. Immunization of new HCWs should be enhanced as an essential component of workers’ protection to reduce the risk of transmission and burden on the healthcare system.