Epidemiological characterization of Influenza viruses detected from acute respiratory patients in Korea during 2012-2016

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Influenza viruses cause acute respiratory disease, seasonal epidemics and occasional global pandemics. In this study, we investigated the characteristics of influenza virus isolated from patients with acute respiratory illness in Gyeonggi province during 20012/13-2015/16. Influenza viruses were detected in 400 of 2,726 (14.7%) specimens by using multiplex reverse transcriptase polymerase chain reaction (RT-PCR) assay with viral specific primers in nasopharyngeal swabs. Of the positive specimens, 233(58.2%) were identified as A type, and 167(41.8%) were identified as B type. Among the influenza A viruses, 81(20.2%) were classified as subtype A (H1N1) pdm09 and 152(38.0%) were classified as subtype A (H3N2). Influenza type A was detected every winter season from 2012/13 to 2015/16; A (H3N2) was predominant from 2012/13 to 2014/15, while predominance of A (H1N1) pdm09 was observed in 2015/16. Type B was detected from 2013/14 to 2015/16, but almost not detected in 2012/13. The 2013/14 season was the highest positive rate at 19.8%. Depending on the age groups, prevalence was the highest in the school-age and adolescent age group of 7~18 years. Major clinical symptoms were fever (88.0%), cough (83.3%), sputum (69%) and rhinorrhoea (68%). There were no different clinical symptoms between the two types of influenza. These results obtained from the influenza surveillance system could be used as a basis for preparing for the seasonal or pandemic influenza outbreak.