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P0042 Seasonal influenza vaccine effectiveness among hospitalized elderly patients against laboratory-confirmed influenza in 2015-2017 in Lithuania

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Background: Extremely low influenza vaccination coverage of elderly observed in Lithuania calls for more evidence of protection to help promoting influenza vaccination among them. Due to lack of knowledge about seasonal influenza vaccine effectiveness (SIVE) against laboratory-confirmed influenza in patients aged ≥65 years a study to measure SIVE in patients admitted to hospital due to severe acute respiratory infection (SARI) in Lithuania during the 2015-2017 was performed. The co-circulation of other respiratory pathogens was also described.

Materials/methods: A test-negative case-control study was conducted in two university hospitals during two influenza seasons: 2015/2016 and 2016/2017. Data on demographic and clinical characteristics were collected. Cases were defined as those testing positive, and controls as those testing negative for influenza. Nasopharyngeal swabs were tested for influenza and other respiratory viruses by multiplex RT-PCR. SIVE and its 95% confidence intervals (95%CI) were calculated as (1-OR)*100%.

Results: Of the 247 included patients 35 (14.2%) were vaccinated against influenza at least two weeks before the onset of influenza symptoms. One-hundred and four (42.1%) tested positive for influenza, 143 (57.9%) were influenza negative. Ninety-seven (39.3%) patients tested positive for influenza A (17 (17.5%) of which A(H1N1)pdm09, 67 (69.1%) A(H3N2), 13 (13.4%) unsubtyped), eight (3.2%) for influenza B (3 B/Victoria, 5 B/Yamagata) and 1 (0.3%) had a coinfection with influenza A and B. Influenza A(H1N1)pdm09 was predominant in 2015/2016 influenza season, while influenza A(H3N2) dominated in 2016/2017. The unadjusted SIVE in 2015/2016 influenza season was 41% (95%CI: -134% to 85%), and 63% (95%CI:-213% to 96%) against any influenza and influenza A(H1N1)pdm09 respectively. The unadjusted SIVE in 2016/2017 influenza season was 30% (95%CI:-74% to 72%), and 18% (95%CI:-103% to 67%) against any influenza and influenza A(H3N2) respectively.
Other respiratory pathogens found were respiratory syncytial virus 17(6.9%), rhinovirus 9(3.6%), metapneumovirus 6(2.4%), adenovirus 3(1.2%), coronavirus 4(1.6%) and parainfluenza 1(0.4%).

Conclusions: Nearly half of SARI cases had laboratory confirmed influenza, which demonstrates high influenza disease burden in Lithuania. Although SIVE estimates confidence intervals are broad and results can serve only as indicatory, the point estimates suggest moderate SIVE in 2015/2016 and low in 2016/2017.
Co-circulation of other respiratory pathogens was low.