

Analysis of Impact of Flu Vaccination on Acute Respiratory Viral Infections (ARVI) Morbidity among Population in South Kazakhstan Region, 2010-2015

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Abstract : Presently vaccination is the most effective method of prevention of flu and its complications. The purpose of this study was to analyze the impact of the increase of coverage of the population of South Kazakhstan region with flu vaccination and decrease of the ARVI morbidity. The analysis was performed on the data of flu vaccination of risk groups, including children under one year and pregnant women. Data on ARVI morbidity during 2010-2015 and data on vaccination were taken from the reports of the Epidemiological Surveillance Unit of Department of Consumers' Rights Protection of South Kazakhstan region. Coverage with flu vaccination of the risk groups was annually increasing and in 2015 it reached 16% (450,000/2,800,682) from the total population. The ARVI morbidity rate in the entire population in 2010 was 2,010.4 per 100,000 of the population and decreased 3.2 times to 609.9 per 100,000 of the population in 2015. Annual growth was observed from 2010 to 2015 of specific weight of the vaccinated main risk groups: healthcare workers by 51% (from 17,331 in 2010 to 33,538 in 2015), children with chronic pulmonary and cardio-vascular diseases, immune deficiency, weak and sickly children above six months by 39% (from 63,122 in 2010 to 158,023 in 2015), adults with chronic co-morbidities by 27% (from 44,271 in 2010 to 162,595 in 2015), persons above 65 by 17% (from 10,276 in 2010 to 57,875 in 2015), and annual coverage of pregnant women on second or third trimester from 34,443 in 2010 to 37,969 in 2015. Starting from 2013 and until 2015 vaccination was performed in the region with coverage of at least 90% of children from 6 months to one year. The ARVI morbidity in this age group decreased 3.3 times from 8,687.8 per 100,000 of the population in 2010 to 2,585.8 per 100,000 of the population in 2015. Vaccination of pregnant women on 2-3 trimester was started in the region in 2012. Annual increase of vaccination coverage of pregnant women from 86.1% (34,443/40,000) in 2012 to 95% (37,969/40,000) in 2015 decreased the morbidity 1.5 times from 4,828.8 per 100,000 of population in 2012 to 3,022.7 per 100,000 of population in 2015. Following the increase of vaccination coverage of the population in South Kazakhstan region, the trend was observed of decrease of ARVI morbidity rates among the population and main risk groups, among pregnant women and children under one year.

Keywords : acute respiratory viral infections, flu, risk groups, vaccination

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