

Food-and water-borne intestinal infections and zoonoses

About 20 thousand food- and water-borne infectious intestinal diseases on average are reported yearly in Lithuania. These infectious diseases account for about 3% in the structure of all communicable diseases. However, the official statistics do not reflect the real situation, as the individuals having a mild form of the disease do not seek medical attention. Salmonellosis and campylobacteriosis are the most common food-borne zoonosis in Lithuania. Salmonellosis incidence rate in 2016, compared to 2015, decreased from 37.5 cases / 100 000 population to 37.2 cases/ 100 000 population. The overall incidence of salmonellosis in EU in 2015, amounted to 21.2 cases / 100 000 population.

The main serological type was *Salmonella enteritidis*, which accounted for 70-80% of all *Salmonella* types. The highest incidence rates were among children under 6 years of age. The main risk factors for salmonellosis remained eggs, chicken and its products. In 2016, 39 outbreaks of salmonellosis were reported in Lithuania compared to 22 in 2015. The main causes for the outbreaks and spread of *Salmonella* spp. in Lithuania were animal food (raw materials) contaminated with pathogenic microorganisms getting into the market, catering companies, educational institutions for children, other consumers; purchase of ready to use food of inadequate quality from food trade companies (fried chicken, cooked food, confectionery, etc.), improper food handling at home and food processing entities, that allows the infectious agents to replicate to the levels dangerous for health; allowing for food contamination in processing facilities, improper decontamination of contagion in raw materials, etc.; disregard of personal and food handling hygiene requirements at home, schools, kindergartens and food processing plants. The risk of infection with typhoid and paratyphoid agents is decreasing every year due to a fewer chronic carriers of the bacteria. Nevertheless, the risk of catching the infection in other countries remains.

Campylobacter infection in Lithuania and in other EU countries as well, is one of the most common intestinal infections¹. Most cases of the infection were sporadic. The highest rate of infection was in children under 3 years of age. The main risk factors for the spread of infection were chicken and its products. The incidence rate of *Campylobacter* increased by 4,6 % compared to the previous year (from 40.8 cases/ 100 000 population in 2015 to 42.7 cases in 2016). The overall incidence rate for *Campylobacter* in EU in 2015 was 65.5 cases/ 100 000 population. In 2016, Viral intestinal infections accounted for 50.0% of all intestinal infections. The most common were *Rotavirus* and *Norovirus* infections. These infections are a serious public health concern, since the seasonal spread of the virus causes outbreaks in many children's educational institutions, and it also leads to an increase of outbreaks in home environment. As susceptibility to it is universal, and the levels of the viral infectious dose are very low, the virus spreads among children or in families very fast. The highest incidence of rotavirus enteritis and norovirus infection was recorded in children under 3 years of age.

The seasonal spread of viruses annually remains most active over the period of October - April.

¹ EU summary report on zoonoses, zoonotic agents and food-borne outbreaks 2015, EFSA Journal 2016;14(12):4634

Typically, the peak of intestinal infectious disease-causing virus activity coincides with the rise of influenza, which usually occurs in December-January.

The main and most common cause of virus spread is through intimate contact with carriers in a household setting. This mode of virus spread is observed mainly among groups of children.

In patient survey, more than 80% of respondents indicated home environment as the source of infection. This shows that the public is not sufficiently aware of viral intestinal infection prevention methods and ways and means of preventing the virus spread. The epidemiologic surveillance data show, that the viral spread in families, schools, kindergartens, and other institutional environments is quite common.

In 2016, ULSVIS registered 188 outbreaks of rotavirus infections (compared to 205 in 2015) and 31 outbreaks caused by noroviruses (compared to 33 in 2015). 89.0% of the outbreaks occurred in home environment.

Although viral intestinal infections are easily treatable, they seriously disrupt family life. Specific prevention of rotavirus infection is limited by the cost of the vaccine. One dose of the vaccine costs parents more than 58 euro. Therefore, public health professionals should focus more on teaching about the importance of hand and food hygiene to curb the spread of food-borne infectious agents. Training in hygiene skills should start in families and continue in children's educational institutions. In 2016, rotavirus infection incidence rate in Lithuania was 141.9 cases/ 100 000 population (compared to 136.0 cases/ 100 000 population in 2015).

According to the recent (2014) ECDC surveillance report, the incidence rates for viral hepatitis A (VHA) in EU/EEA was 3.0 cases/100 000 population². The EU/EEA notification rate in 2014 was 3.0 cases per 100 000 population, ranging from 0 in Iceland, where no cases were reported in 2014, to 33.3 in Romania. Between 2010 and 2014 the average number of reported cases was 13 180, ranging from 12 550 to 13 724.

² ECDC. Tuberculosis surveillance and monitoring in Europe, 2017