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EPIDEMIOLOGICAL CHARACTERISTICS OF THE EPIDEMIC PROCESS OF TYPHOID FEVER IN DELHI

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Relevance. Typhoid fever is an anthroponotic infection caused by the bacterium *Salmonella typhi*. According to experts of the World Health Organization (WHO), from 11.9 to 26.9 million people get typhoid fever every year in the world. It is estimated that 129 000 to 161 000 people die from typhoid every year, with a significant part of the territorial burden falling on South Asia. The risk for travelers depends on the geographical region visited, with the greatest risk associated with trips to India. Typhoid fever remains an urgent public health problem in India. There are programs of epidemiological surveillance of typhoid fever in the country, however, to introduce a conjugated vaccine into national immunization programs, it is necessary to study the features and patterns of the development of the epidemic process.

Aim: to study the epidemiological parameters of typhoid fever in Delhi and to assess the possibilities of using effective preventive measures.

Materials and methods. The material for studying the long-term dynamics of the incidence of typhoid fever was data on cases of this infection registered in the territory of Delhi for the period from 2010 to 2019 and published by the Statista research department on the official website <https://www.statista.com/statistics/861501/india-number-of-typhoid-cases-in-delhi>. The reliability of the trend was determined using the Student's t-test. Statistical processing of the obtained data was carried out using computer programs: Microsoft Excel (formation and statistical processing of spreadsheets, parabola equation of the first order, diagram construction), IBM SPSS Statistics 19.0 (Student's t - test, averages, mean square deviation, standard error).

Results and discussion. When analyzing the long-term dynamics of the intensity of the epidemic process of typhoid fever in Delhi for the period 2010-2019, it was found that the incidence was unevenly distributed over the years and ranged from 58.5 in 2019 to 204.6 in 2012 per 100 000. The maximum and minimum indicators differed 3.5 times. The average long-term incidence rate was 123.7 per 100 000. The average annual rate of decline of indicators was 13.4% ($p < 0.05$). Relative to the long-term trend line, the cyclical nature in the epidemic process of typhoid fever has been established with the duration of the phases of the rise in morbidity from one to two years. In order to prevent people planning trips to the territory of Delhi and other cities of India, especially with a long stay, vaccination with conjugated or polysaccharide vaccines, the use of safe bottled drinking water, compliance with cooking technology, washing vegetables, fruits and berries with disinfected water, compliance with personal hygiene rules is necessary.

Conclusions. The absolute number of typhoid cases in Delhi in 2019 exceeded 17 thousand, compared with about 27 thousand typhoid cases in 2018. The average long-term incidence rate was 123.7 cases per 100 000, which makes it possible to attribute Delhi to territories with high endemicity. The presence of a high incidence of typhoid fever and the phase of epidemic trouble, forming a cycle, indicates the preservation of conditions for the development of the epidemic process of typhoid fever in Delhi, the formation of its endemicity and the risk of infection.