

## THE IMPACT OF VACCINATION WITH THE MMR VACCINE ON THE STATE OF THE GENERAL POPULATION IN THE TERRITORY OF THE MAČVA DISTRICT IN THE PERIOD 2014-2023.

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**Introduction:** The causative agent of measles is a globular, single-stranded RNA virus, which belongs to the genus Morbillivirus of the Paramyxoviridae family. This virus, 150nm-300nm in diameter, contains single-stranded RNA in its core. There is only one antigenic type of measles virus. Measles is a highly contagious disease. The contagiousness index of this disease is close to 100%.

The virus was isolated in 1954, and worldwide vaccination began in 1963. Vaccination against measles has been carried out in our country since 1971.

Since the introduction of the measles vaccine, significant progress has been made in reducing the global incidence and mortality of the disease. Epidemics occurred every 3-5 years, with many times smaller number of patients. The number of patients in Serbia decreased from 37,441 cases of patients in 1980 to 4,692 cases and 7 deaths during the last major epidemic in 1997. In October 2017, a large measles epidemic began in Serbia, with 693 cases, and continued in 2018 with a total of 5,783 cases and 15 deaths. Serbia is a country where smallpox continues to be endemic.

**Methods and Objectives:** Reports of infectious diseases, annual reports of the epidemiological service, results of epidemiological and serological tests were used. A descriptive and analytical method was applied. The aim of the paper is to show the relationship between measles vaccination coverage and the occurrence of measles cases in the population on the territory of the Mačva district.

**Results:** In the period from 2014-2023. 85 cases of measles in the population were registered in the territory of the Mačva district. In the same period, MMR vaccine coverage varied from 78.83% to 97.54%.

**Conclusion:** The only effective measure of prevention against measles is immunization. This immunization involves the application of two doses of the vaccine, with coverage of at least 95%. In order to carry out effective epidemiological surveillance, it is necessary to recognize and report all suspected cases at the level of primary health care, in order to break the chain of transmission of the virus and to implement anti-epidemic measures in time.

**Keywords:** measles, immunization, epidemic, vaccination coverage