



Fund “Nauka” Project № 23013 Resume – Competition-Based Session 2023:

“Study of carriage of *Streptococcus pyogenes* of group A among children and staff in children’s facilities in the territory of Varna region”

Project leader: Assoc. prof. Eliyana Panayotova Ivanova, MD, PhD

Purpose: to study the frequency of asymptomatic nasopharyngeal carriage of *S. pyogenes* among children and staff in children’s institutions in the territory of Varna region and to determine the antimicrobial sensitivity of the proven causative agents.

Tasks:

1. To investigate the carriage of *Streptococcus pyogenes* in secretions from the nose and throat among children aged 1 to 7 years and staff in children’s facilities in the territory of Varna region.
2. To determine the antimicrobial susceptibility of isolated *Streptococcus pyogenes* to a set of antibiotics.
3. To assess the effectiveness of the anti-epidemic measures taken in relation to the infectious agents found in the epidemic outbreaks.
4. On the basis of the obtained results, prepare recommendations for improving the algorithm for prevention, epidemiological surveillance and control of the scarlet fever infection.

Materials: the study will include biological materials – secretions from the nose and throat of children aged 1-7 years in children’s collectives and persons working in children’s institutions.

Methods: microbiological culture of selective nutrient medium for detection of the pathogen and disk-diffusion method for testing the sensitivity to antibiotics of the isolated pathogens.

Expected results:

1. Establishing the frequency of healthy carriage of *S. Pyogenes* among the studied cohorts with its expected increase given the epidemic rise of scarlet fever in the Varna region and the country in the post-pandemic period of COVID-19;
2. The antimicrobial susceptibility of the isolated pathogens will be identified, anticipating a higher rate of resistance to the antibiotic groups administered during the COVID-19 pandemic;

3. The cause-and-effect relationship between the high percentage of carriers in the organized collectives and the level of incidence of scarlet fever among the children's population will be established;
4. The obtained results will contribute to the compilation of an algorithm for epidemiological control of scarlet fever in children's institutions by timely detection of healthy carriers and protection of the health of children at high risk of streptococcal infection.