

in 2017. The total number of patients with IBD was 459 people. The results of the research showed that the incidence of UC and CD is higher in the Vyborgsky district than in the Frunzensky district ($p < 0.05$), the prevalence is almost the same in both regions ($p < 0.05$). The incidence of UC is 9.05 per 100 000 people in the Frunzensky district in 2017, in Vyborgsky it is 12.58 per 100 000 people. The incidence of CD is 3.21 per 100 000 people in the Frunzensky district in 2017, in Vyborgsky it is 6.29 per 100 000 people. The prevalence of UC is 40.6 per 100 000 people in the Frunzensky district in 2017, in Vyborgsky district it is 38.9 per 100 000 of the population. The prevalence of the CD is 20.4 per 100 000 population in the Frunzensky district, in Vyborgsky district 23.9 per 100 000 population. Among patients with UC, women predominate in a ratio of 1:2 ($p < 0.05$), CD is almost the same in men and women ($p < 0.05$). The incidence of UC prevails over the incidence of CD, as well as higher incidence rates among female patients ($p < 0.05$). An analysis of the age structure showed that about 50% of cases of UC occur at the age of 20–49 years, about 40% of patients with UC are in the age group over 60 years, no more than 10% of cases occur at the age of 18–19 and 50% 59 years old. More than 60% of patients with CD are in the age group of 20–49 years and about 25% of cases of CD are in patients older than 60 years, about 15% in the group of 50–59 years and no more than 5% of cases in the 18–19 age group. Given that the incidence of UC and CD are higher among women and more than 50% of patients are in the most able-bodied age of 20–49 years, inflammatory bowel disease is a group of highly relevant and socially significant diseases. The revealed differences in morbidity between districts should be taken into account when organizing preventive, therapeutic and diagnostic activities.

1.14

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THE USE OF CORRELATION ANALYSIS ON THE EXAMPLE OF INFLUENZA VACCINATION ON THE TERRITORY OF THE ROSTOV REGION

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Vaccination company is held every year in Rostov region before the epidemic increase of influenza infection. For immunization, influenza vaccines of domestic and foreign production are used, included for the Northern hemisphere on the recommendation of the world health organization of actual strains of influenza A(H1N1), A(H3N2) and B for the current season.

To assess the vaccination effect in the Rostov region, signs of influenza infection were analyzed during the epidemic seasons and coverage of preventive vaccinations during the 15 seasons (season 2003–2004 up to 2017–2018 years). Precautionary coverage was reevaluated on accordance to the form No. 5 of the state statistic observe data.

During the research period precautionary coverage from influenza has raised from 17.1% of communities in the 2003–2004 seasons up to 45% in 2017–2018 years.

Correlation rate was calculated with non-parametric correlation rate of Spirman's degrees, and it is equal to 0.67 in the current research. To estimate the zero-hypothesis the target value of the criteria should be compared with the tabled value criteria. According to the Spirman's table of crucial correlation criteria $n = 15$ and along with the rate of statistic value 0.05 the crucial point for p was 0.521. Target value (0.67) is more than crucial, discovered

association between the precautionary coverage of influenza prevention and virulence is statistically valued. In addition, the correlation coefficient value and sign with which it turned out, we can suggest about the strength and direction of the connection.

This correlation coefficient is equal to +0.67, that indicates a direct and average dependence, on this basis, it is proved, that there is an increase in vaccination coverage against influenza groups at risk (children over 6 months, people suffering from chronic diseases, pregnant women, as well as persons from occupational risk groups — health workers, teachers, students, service and transport workers) leads to a decrease in the incidence of this infection, prevent complications and reduce the number of deaths.

1.15

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EPIDEMIOLOGICAL CHARACTERISTICS OF INCIDENCE OF CHRONIC VIRAL HEPATITIS B INFECTION AMONG HEALTHCARE WORKERS IN ST. PETERSBURG IN 2013–2017

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The aim of the study was to determine the clinical and epidemiological features of viral hepatitis B (HBV) in medical personnel newly identified in St. Petersburg under the conditions of vaccine prevention.

In St. Petersburg vaccination of health care workers began in 1996. Coverage with 3-fold of hepatitis B vaccine among medical workers are expressed in the following figures: in 2013 — 94.7%, in 2014 — 96.7%, in 2015 — 96%, in 2016 — 96.6%, in 2017 — 96.7%.

160 registered cases of viral hepatitis B in health-care organizations in St. Petersburg, including 141 cases of chronic HBV, 5 cases of acute HBV, and 14 cases of HBV carriage. Out of 160 cases, 112 cases were medical workers 112 (70%) and 48 (30%) were not medical staff.

The incidence rate of HBV per 100 000 medical workers was 38.2 in 2013; 50.8 in 2014; 24.3 in 2015; 22.7 in 2016; and 4.5 in 2017.

The group of medical workers consists of 99 cases of chronic HBV (88.4%), two cases of acute HBV (1.8%) and 11 cases of HBV carriage (9.82%) ($P < 0.05$)

Women predominate with 74.1% of cases while men comprise 25.9% ($P < 0.05$).

Age structure: 20–24 years — 2.7%, 25–29 years — 7.1%, 30–34 years — 7.1%, 35–39 years — 5.4%, 40–44 years — 8.9%, 45–49 years — 9.8%, 50–54 years — 10.7%, 55–59 years — 20.6%, and from 60 and over — 27.7%.

In the socio-occupational structure of HBV cases in 2013–2017, the main share is occupied by the middle medical personnel — 42%, professional medical personnel — 33% and junior medical personnel — 25%. The socio-occupational risk groups for HBV according to the type of departments are: surgical — 23.2%, outpatient polyclinic — 17%, dental — 8%, therapeutic — 6%, staff of clinical diagnostic and biochemical laboratories — 5.4%.

Thus, the incidence of HBV in St. Petersburg in the conditions of vaccine-preventive maintenance of infection tends to decrease, over the five-year span by 8.5 times — from 38.2 in 2013 to 4.5 in 2017. The preponderance of persons over 55 years old among healthcare workers affected by HBV old and the dominance of chronic

forms of infection indicates the imperfection of activities to identify hidden forms of the disease. The socio-professional structure corresponds to the risk groups specified in the guidelines. The study showed that the incidence of viral hepatitis B in health care workers is still an actual problem, despite the high efficiency of the activities and programs.

1.16

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THE PREVALENCE AND MOLECULAR EPIDEMIOLOGY OF *STENOTROPHOMONAS MALTOPHILA* IN THE INTENSIVE CARE UNITS

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Stenotrophomonas maltophilia is a ubiquitous aerobic nonfermentative Gram-negative bacillus that exists in humid environments, water sources, soil, and plants. *S. maltophilia* has the ability to colonize epithelial cells of the respiratory tract and surfaces of medical devices. This nosocomial pathogen that is highly antibiotic resistant and associated with high morbidity and mortality, particularly in immunocompromised or critically ill patients. Episodes of fever and neutropenia are common complications of treatment for cancer. The use of prophylactic and early empirical antibiotics has reduced mortality but decreases

the sensitivity of diagnostic tests based on culture. It seems obvious importance of early identification of *S. maltophilia*.

This study was aimed to determine the prevalence of *S. maltophilia* in the intensive care units.

The material was *S. maltophilia* isolates, collected from 392 samples, including patient's blood, medical devices, surfaces, beds and the surroundings of patients in wards. Genotyping was performed using sequencing of 16S rRNA gene. The 16S rRNA sequence of each strain was aligned with 16S rRNA gene sequences from the GenBank sequence database using the BLAST algorithm.

A total of 47 (11.9%) isolates of *S. maltophilia* were recovered from patients and environmental samples. Most of the isolates were not genetically related. However some isolates found from the surroundings of patients in wards were genetically similar to those obtained from patients. So some evidence of clonal dissemination was found, indicating the occurrence of cross-transmission of antibiotic-resistant strains within the hospital.

The presence of *S. maltophilia* in the hospital environment indicates that it can act as a reservoir of this microorganism. This underscores the need for effective control and prevention measures in hospitals. Using sequencing 16S sequence reduces time of identification bacteria, including allowing the identification of the object directly from the patient's blood.