

Material for the study: 637 sputum samples from 171 children of the intensive care unit, including from the department of pathology of newborns and premature infants; scrapes from the throat, nose and hands of 53 medical staff; 86 scrapes from the surfaces of the environment. Research methods: bacteriological and MALDI-TOF/MS (Bruker Daltonics).

It was found that 30 species of bacteria were isolated from children, including: *Staphylococcus aureus* (10%), *Staphylococcus epidermidis* (8%), *Klebsiella pneumoniae* (7%), *Streptococcus pneumoniae* (7%), *Enterococcus faecium* (2%). *S. aureus* (45%), *S. epidermidis* (90%), *S. pneumoniae* (17%), *K. pneumoniae* (6%) were isolated from medical personnel serving these children. Staphylococci of different species with the highest proportion of *S. epidermidis* (21%) were isolated from 50% of environmental objects. Most often they were isolated in newborns (16%), less often in children aged 1 month to 1 year (10%), in children 1–3 years (8%), in children older than 3 years (1%). These data indicate a contact-household route of transmission of infection caused by *S. epidermidis*. The frequent occurrence of *S. aureus* and *S. pneumoniae* in children and medical personnel in the absence of these bacteria in the environment indicates the role of resuscitation department staff as a source of these infections. Bacteria *K. pneumoniae* and *E. faecium* are isolated from both children, medical personnel and environmental objects. All of the above bacteria were well subjected to destruction by disinfectants. After reorganization activities in the department, the proportion of positive bacterial seeding decreased significantly.

However, the study found that *Bacillus cereus* strains isolated from newborn infants (6%) and from medical and general-purpose equipment are resistant to all disinfectants used in the department. As a result of the research, the drugs to which the isolated bacilli are sensitive were selected.

Thus, continuous monitoring of the microbiota, the study of its characteristics and the epidemiological approach to assessing the situation can significantly reduce or avoid the development of infections associated with the provision of medical care.

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### ETHICS OF VACCINATION AS THE CRITERIA OF THE SCIENTIFIC AND HUMANISTIC APPROACH

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The aim of this research was to analyze the unique role of the vaccination from its successful and problematic sides concerning the developing, distribution and using the vaccines in different epidemiological situation in the mirror of the global bioethics. The role of the balance between ethics and success of vaccination was clearly illustrated and based on examples from the history of vaccination and our own experience connected with amazing contribution of Leningrad/St. Petersburg Pasteur Institute in the history of vaccination. It was clear shown that the particular importance has the harmonization and solidarity of all persons and structures involved in the process of vaccine prevention within local, national, regional, and global levels. In order to reach the goal in protection of the infectious diseases by vaccination, it is necessary to follow in reality and to demonstrate to the society such universal ethical standards as scientific honesty, social expediency, justice, non-discrimination, transparency and overcoming of the conflict of interests. Detailed description how these ethical principals particularly work in the stage of R&D

vaccines, its distribution, using for vulnerable population and in the frame of WHO program for eradication of poliomyelitis, measles, and rubella was done. The specific relevance of the presented study was to highlight the key role of ethical principles of the adversarial position to the increasing anti-vaccination lobby. It is well known that the success of vaccination is associated not only with effective and safe vaccines, but directly depends on the society adherence to vaccination acceptance and realization. A negative influence of anti-vaccination movement, which promotes mistrust to vaccination, is playing an essential role in this process. The objective analysis and identification of ethical errors in the process of vaccination demonstrated in this research show the way any unethical action is creating a basis for the anti-vaccination movement. The maintaining of ethical standards balance and building partnerships and interaction with society as well as the implementation of the ethical elements in legal regulation of the vaccination process on national and international levels are crucial for achieving optimum results in countermeasures against evolving the anti-vaccination lobby and protection against infections by vaccination in the present time and future perspective.

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### ETHICAL CONSIDERATION IN CONCEPTION OF INFECTIOUS DISEASES ERADICATION

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The goal of this study was to show the universal role of ethical conception in the realization WHO global initiative on the eradication of infectious diseases: polio, measles, rubella and congenital rubella. The analysis of the WHO Strategic Plan activities was done in the light of UNESCO Declaration “On Bioethics and Human Rights”, 2005. During implementation of WHO Strategic Plan for eradication measles, rubella and congenital rubella at the national, regional and global levels was happened the obligatory need to twice postpone the deadline from 2010 to 2015 and from 2015 to 2020. The reason of this event was connected with the lack of solidarity during preventive measures and clearly demonstrates the importance for joint actions and control over the epidemic process. The acceptance and following of these measures could help to achieve the effect, which corresponds to the ethical principals from article 13 “Solidarity and Cooperation” and article 24 “International Cooperation” of UNESCO Declaration. The diversity of situations and conditions in the implementation of the WHO program in different regions of the world, or in relation to the different cultural, social, religious, economic and psychological status of contingents requires adherence to the principles laid down in articles 8, 9, 12: “Recognition of human vulnerability and respect for personal integrity”, “Equality, justice and equality” and “Respect for cultural diversity and pluralism”. The whole system of administration and management of the WHO activity at each individual level of implementation should be based on the ethical principles decelerated in articles 3, 5, 14–17: “Human dignity and human rights”, “Independence and individual responsibility”, “Social responsibility and health”, “Sharing benefits”, “Protecting future generations” and “Protecting the environment, the biosphere and biodiversity.” In general all elements of the implementation the global goals both in the field improving vaccine and vaccination pro-

cess and in laboratory practice for diagnostic and control of the elimination program could be achieved only on the basis of following guidelines mentioned in article 21 “Transnational practices”, which facilitate the exchange of new technologies and Article 23 “Education, training and information in the field of bioethics” which give the universal orientation for ethical cooperation.

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### EPIDEMIOLOGICAL CHARACTERISTICS, ETIOLOGICAL STRUCTURE AND MODERN METHODS OF DETECTION OF PATHOGENS OF ACUTE INTESTINAL VIRAL INFECTIONS IN ORGANIZED GROUPS

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In organized collectives of the Armed forces of the Russian Federation, acute intestinal infections (AII) occupy one of the leading rank places, which is associated with the level of morbidity and with large labor losses. Diagnostics is carried out taking into account the requirements of documents of the Sanitary legislation of the Russian Federation, using modern methods of laboratory diagnostics. Recently, specific laboratory studies indicate the dominance in the etiological structure of acute intestinal viral infections of unknown etiology (AIVIUE) of intestinal viruses, the most significant of which are viruses that cause enteritis and gastroenteritis: rotaviruses, caliciviruses, including noroviruses and related viruses, astroviruses, adenoviruses, enteroviruses, etc. Special place is occupied by the group incidence of acute intestinal viral infections (AIVI). In recent years, for these purposes are embedded devices, styling, diagnosticums and test systems made in Russia, some of them are tested in the army now.

The aim of the work was to assess the epidemiological significance of AIVI in military personnel, the etiological structure of viruses and diagnostic value, means of sample preparation and their detection. Detection of markers of rotaviruses, adenoviruses and noroviruses in feces was carried out by methods of enzyme immunoassay (ELISA), real-time PCR with multiplex test system “OKA-screen”, in addition, the method of latex agglutination using domestic test systems “Rota-screen”, “Adeno-screen”, “Noro-screen” was used. Enteroviruses (ECHO, Coxsackie A, Coxsackie) was determined in the feces of a classical virological method of neutralization. It is established that a leading place among the causative agents of viral etiology OKA occupied: rotaviruses — 49%, noroviruses 12%, adenoviruses — 9%, astroviruses — 1%, enteroviruses (ECHO — 18%, Coxsackie A — 8%, Coxsackie B — 3%) — 29%.

Thus, complete etiological decoding of AIVI with the help of specific laboratory tests allows to evaluate both epidemiological and clinical features of acute intestinal viral infections in organized groups.

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### COMPLIANCE OF HEALTH CARE WORKERS WITH VACCINATION AS THE FACTOR OF FORMATION OF POSITIVE ATTITUDE TOWARDS VACCINATION IN THE POPULATION

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Despite the importance of preventive vaccination to eradicate infectious diseases, in recent years, there were those who doubt about the need to continue mass immunization.

The aim of the study is to evaluate the role of health care workers in shaping the attitude towards vaccination among the population.

In the research, an anonymous questionnaire was designed and 865 parents were surveyed about their attitude towards vaccination. 78.2% of respondents believe that vaccination is necessary, 6.7% are convinced that vaccination is not needed, and 15.1% did not answer the question about the advisability of vaccination.

When assessing the attitude towards vaccination among people of different age and education level, no significant differences have been revealed ( $\phi < 1.64$ ,  $p > 0.05$ ). When analyzing the gender structure of the respondents, the most reluctant parents were found among men ( $\phi > 2.31$ ,  $p < 0.01$ ).

A negative attitude to vaccination among parents was linked with the uncertainty of their safety (45.2%). In the second place, it was observed that the vaccinated children could also get sick (16.0%) and then there were doubts about the quality of modern vaccines (11.5%).

The majority of parents (76.8%) stated that they often received information about vaccinations from health care professionals and less often from relatives, friends, Internet, and television ( $\phi > 2.31$ ,  $p < 0.01$ ).

To assess the opinion of health care workers about vaccination, a survey of 1325 employees of five various hospitals was conducted. It has been established that the majority (85.9%) had a positive attitude towards vaccination, and 4.5% were negative and 9.6% were unable to formulate their answer.

Among 187 employees who do not trust the vaccination there were 41 physicians, 79 nurses, 14 paramedical personnel and 53 employees of non-medical specialties. Among physicians of different specialties the greatest number of opposed employees were among dentists, surgeons, pediatricians, intensive care workers and laboratory workers. A negative attitude towards vaccination was most often found among employees with work experience over 20 years ( $\phi > 2.31$ ,  $p < 0.01$ ), while no significant gender differences were revealed ( $\phi < 1.64$ ,  $p > 0.05$ ).

Thus, to improve the system of preventive vaccination, it is necessary to raise the awareness of health care professionals in matters of vaccination, because they are the most important and authoritative sources of information about vaccination for the population.

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### CLINICAL-EPIDEMIOLOGICAL CHARACTERISTIC OF THE INFLAMMATORY BOWEL DISEASES IN SAINT PETERSBURG

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One of the leading problems in the structure of diseases of the digestive system are the Inflammatory bowel disease (IBD), which includes the Ulcerative colitis (UC) and the Crohn's disease (CD). In recent years, a steady increase in the incidence of UC and CD has been noted in industrialized countries. The peak incidence falls on the age of 15–35 years. The aim of our research was to study the incidence and prevalence of the UC and CD among adults, and also to analyze the sex and the age features of their course in Saint Petersburg. We evaluated the incidence of UC and CD among adults in two districts (Frunzensky and Vyborgsky) in Saint Petersburg