

Table 2

The results of the medical examination of the full-time first-year students, enrolled in the major universities of the Altai Territory in the 2014–2015 school year

University	Medical teams, %			
	Primary	Preparatory	Special	Exemption
AltFMU	29,34	33,09	36,56	1,01
AltGTU	68,86	13,85	15,6	1,69
AltGAU	70,24	2,35	23,29	4,12
AltU	55,52	20,05	20,23	4,19
AltGPU	87,84	2,85	4,27	5,05

Thus, 37,13% of the students, of the total number received in all the relevant universities have varying degrees of deviations in health status (preparatory, special medical group and released from physical training). Of these 176 students, which is 3,18%, they have a serious illness, including disability, and fully exempted from practical lessons on discipline “Physical training”.

In the Altai State University, according to the results of medical examination admitted roughly equal number of students belonged to preparatory and special medical group – 20,05% and 20,23% respectively of the total number admitted to this school, and in the Altai State Technical University – 13,85%, and 15,60%, respectively (Table 2).

In AltGAU and AltGPU the preparatory medical group on the results of a medical examination referred smallest number of students compared to other universities – 2,35% and 2,85% respectively. As a result of the medical examination of the first year students of AltGPU also recorded the lowest number of students assigned to special medical group – 4,27% of the total received by the Academy. Among the other distinguished universities AltGMU, which, in the period under review, received the largest number of students with different variations in health status. The preparatory medical group medical university enrolled – 33,09%, in special medical groups – 36,56% of the students.

Based on the findings, we can say that in AltGPU in the 2014–2015 academic year admitted the maximum number of relatively healthy students, compared to other universities – 87,84%, and the largest number of students exempt from practical physical training – 5,05%. In AltGMU there was recorded the lowest number of relatively healthy students – 29,34%, and 1,01% – exempt.

From the results of medical examination we can say that the quality of health of highly qualified graduates desired to be better, because today's freshmen, will be graduates “tomorrow”. In this connection, in our opinion, we have to not just be in the active search for new effective means and methods of physical education aimed at the preservation of health and prevention of major diseases, but already starting to use them in the educational process.

The main diseases of young people in Russia are cardio – vascular, respiratory, nervous system, musculoskeletal system, and organs of sight [2]. Given this fact, we believe that it is necessary to include in the content of each physical education classes for students of preparatory and basic health group corrective exercises aimed at disease prevention and health promotion. Exercises that bear such a nature, has long included in the content of the classes of special medical group, but as a rule, are not compulsory in primary and preparatory group health.

If today the teachers of secondary schools and teachers of higher and secondary specialized educational institutions of physical education in their classrooms will apply corrective exercises aimed at disease prevention and health promotion, then tomorrow we will see a completely different data.

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The work is submitted to the International Scientific Conference “Problems of quality education”, TURKEY (Antalya) August 20–27, 2015, came to the editorial office on 28.07.2015.

THE ADVANTAGE OF EXOSOMES AS VECTORS OF DRUGS

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The article considers the advantages of exosomes as vectors of medications over artificially constructed vesicles.

The main problem of modern therapy is the low pointness of drugs and obsolescent over time medicines. In connection with this it is necessary to create new delivery agents providing direct delivery of

the medical product in the pathological process area in the required therapeutic concentration, to reduce the adverse effects on the body of toxic compounds, which can extend the life of existing drugs, and more fully realize their potential.

Currently, work is underway on the construction and improvement of artificial vectors, which main problem is the lack of focus, not investigated biocompatibility, the labor intensiveness, high cost of production and consequently expensiveness drugs. By focusing on this complex process, we forget about the existence of biological containers – exosomes.

Exosomes – natural microvesicles consisting of a lipid shell by diameter of 30-100 nm secreted into the extracellular space by the various cells of the body, which fundamental function is intercellular communication [1, 4].

Compounds, included in the exosomes (micro-RNA, proteins, lipids annexins, and other) is determine their properties. Exosomes are able to protect the medical product from degradation, implement its directed transporting, protect the organism from the effects of highly toxic medical product, penetrate through all kinds of barriers, opening the possibility for the treatment of previously inaccessible pathological centers, they are not captured by cells of the reticuloendothelial system, and remain invisible to the immune system cells [2, 3].

To achieve the pointness there is necessary to attach specific ligand to the surface of exosomes for which there is a specific receptor or other object to be linked. Under the influence of annexin there occurs endocytosis of exosomes with a cell, and under the action of intracellular enzymes drug is release, which modifies the functions of the target molecules.

A potential problem of using exosomes as vectors may be the presence of the major histocompatibility complex on their surface, but the solution to this problem, as well as the source of the mass production of exosomes may serve as mesenchymal cells with suppressed synthesis of major histocompatibility complex [5].

Getting exosomes does not require complicated methodics and the availability of expensive equipment. Why use a time-consuming and expensive production of drugs, where there is the possibility of an alternative use of natural biological delivery system that does not require global costs?

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The work is submitted to the International Scientific Conference “Fundamental research”, ISRAEL (Tel-AVIV), October 16–23, 2015, came to the editorial office on 14.08.2015.

ETIOLOGY OF FEBRILE SEIZURES AT CHILDREN

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In recent years, we see increasing attention of pediatricians, neurologists, epileptology problem attracted febrile seizures (FS). Febrile seizures are paroxysms different duration, including other forms of tonic or tonic-clonic seizures in infants, young and school-age children with body temperature of at least 38 °C (except convulsions in neuroinfection). FS can be transformed into afebrile seizures and epilepsy. FS are not epilepsy, but may be the cause of epilepsy and forming a stable intellectual and neurological deficit. To date, there is no clear understanding of the causes of FS, but as an opportunity to consider several factors. It is assumed that any infection can trigger the development of attack. In the structure of infectious diseases in children are leading acute respiratory infections (ARI).

Purpose – the study of FS etiology in children aged from 3 till 36 months (3 years old) with ARI.

Methods and patients. We observed 58 patients with FS on the background of ARI in the Krasnoyarsk Inter-District Children’s Hospital №1 (October 2013 – February 2014). In order to decipher the underlying disease etiologic research was conducted from nasal swabs in the reaction immunofluorescence antigen detection of respiratory viruses, identification markers herpesvirus (HSV types 1 and 2, HHV-5 (CMV), HHV-6) in serum by enzyme immunoassay with the definition of the index of antibody avidity. We study determination of DNA viruses in blood lymphocytes, nasopharyngeal mucus and urine by PCR.

Results. The average age of the patients was 24,6 months: 56,9% of boys (33 pers.), 43,1% girls (25 pers.). Among the children surveyed we have found the following etiologic structure FS: antigens of influenza A virus (H3N2) – 15,5% (9 people); respiratory syncytial virus, adenovirus and parainfluenza virus type 1 accounted from 7% till 9% of FS cases. Along with the respiratory virus group, one of the leading agents in subjects herpes viruses were the 5th and 6th type. Determined by