

EDITOR-IN-CHIEF'S PREFACE TO ISSUE 2, 2025

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In the issue that you, dear readers, will review with interest, I would highlight first of all one article and two relevant reviews. In the study of V.V. Balzhieva, et al (Irkutsk) indicators of an unhealthy metabolic phenotype were determined in adolescents of different sexes in the Mongoloid population of North Asia. Review of authors from Moscow (Prokhorenko I. R. et al.) draws attention to the important role of heterodimers of Toll-like receptors (TLRs), and activated by them, signaling pathways in the pathogenesis of diseases, which can contribute to the development of targeted drugs. The review of Butikova E.A. et al. (Novosibirsk) is devoted to the so far poorly studied non-thermal biologically active effects on cells of terahertz radiation.

I found the experimental works in this issue very interesting. An article by Ural authors Maslennikova I.L. and coauthors showed the antibacterial properties of a new class of photocatalytic spherical TiO₂ particles. Filippov Yu.A. and coauthors (St. Petersburg) showed that the sucrose model of visceral obesity leads to the development of cardiac hypertrophy and impaired repolarization of the heart muscle. The work of Lebedeva S.N. et al. (Ulan-Ude and Vladivostok) has a theoretical focus on the model of cold stress proved neuroprotective properties of protein concentrate enriched with magnesium and probiotic cultures, which can be used in nutrition at low ambient temperatures. And one more experimental work with use in practice by Lubyanskii V.G. et al. (Barnaul, Biysk) devoted to the of hernioplasty improvement using the original fibrin coating of the implant.

Several works are devoted to the health of children and youth. I will start with a study by V.P. Novikova et al. (St. Petersburg, Moscow), who developed a promising method for assessing the exchange of organic acids by gas chromatography-mass spectrometry in children with sarcopenia. This is important for differential diagnosis and control of nutritional support in such children.

Polyakov V.M. et al. (Irkutsk) revealed that, the process of kinesthetic and spatial organization of movements formation in rural children ended earlier than in urban one, and the formation of these functions was more stable and intense than in the urban population. Moskalova E.V. et al. (Irkutsk) revealed a long-term change in the immune status indicators in children after COVID-19, which may be a risk factor for the development of chronic infectious pathology. Important, but disappointing conclusions are drawn in the work of Gordeeva S.S. et al. (Perm) that even the COVID-19 pandemic has only had a short-term impact on student health behavior, and health-saving practices have only been strengthened among several of them.

Women's health is the focus of research of Belyaeva E.V. and coauthors (Irkutsk). They proved, that it is necessary not to rely on surveys of pregnant women, but to use the most informative marker of alcohol consumption – the phosphatidylethanol homolog 16:0/18:1Peth. In the same section, I would like to mention the article by Nikitina O.A. and coauthors (Irkutsk) who evaluated the antioxidant status and content of the oxidative stress marker 8-hydroxy-2-deoxyguanosine in the dynamics of physiological pregnancy. Activation of antioxidant protection and low levels of 8-hydroxy-2-deoxyguanosine by the end of gestation are shown. An important conclusion of this section is the review by N.V. Artyukov et al. (Kemerovo) based on an assessment of leading information databases for 5 years that confirmed the adverse effect of endocrine chemical disruptors on the woman and her child health.

A number of articles are devoted to diagnostics, epidemiology, risk factors, and recovery programs for cardiovascular diseases. These are joint international studies of a team of Belarus and Russian scientists (Mityukova T.A. and coauthors)

on the rapid improvement of heart rate indicators in obese patients after health programs. The study of scientists from Kyrgyzstan (Duishenalieva M.T. and others), who studied a new class of chronic heart failure – with a moderately reduced left ventricular ejection fraction.

Three articles are devoted to the influence of industrial and environmental factors on cardiovascular pathology. Scientists from Iran (Seydi Joughan S. et al.) have found that high-intensity industrial noise is a cardiovascular risk factor. Scientists from Kemerovo (Tsygankova D.P. et al.) studied dietary stereotypes and their relationship with the main cardiovascular risk factors in coal industry workers and found that adherence to the protein-carbohydrate diet stereotype was associated with a reduced risk of developing arterial hypertension. In the work of Chernykh E.M. et al. it is shown that in the prevention of stroke, it is important to take into account the prevalence of concomitant diseases in the city and in rural areas.

Zhdanova S.N. and coauthors (Yakutsk-Irkutsk) described changes in the molecular and genetic structure of the population of *M. tuberculosis* strains for 2009–2024 an increase in the level of XDR in Beijing B0/W148 strains and genotype S in 2022–2024 (the period of the COVID-19 pandemic), which requires increased control over the effectiveness of treatment.

One work of the branch of The S. Fyodorov Eye Microsurgery Federal State Institution is devoted to the effectiveness of the rear “capture” of IOL optics to prevent rotational instability of toric IOLs (Direev A.O. et al., Novosibirsk).

Researchers in the field of demography will be interested to get acquainted with the opinion and suggestions of Leshchenko Y.A. (Angarsk) regarding demographic and migration processes in Russia in the last 30 years.

For citation: Kolesnikov S.I. Editor-in-Chief’s preface to Issue 2, 2025. *Acta biomedica scientifica*. 2025; 10(2): 5-8. doi: 10.29413/ABS.2025-10.2.1