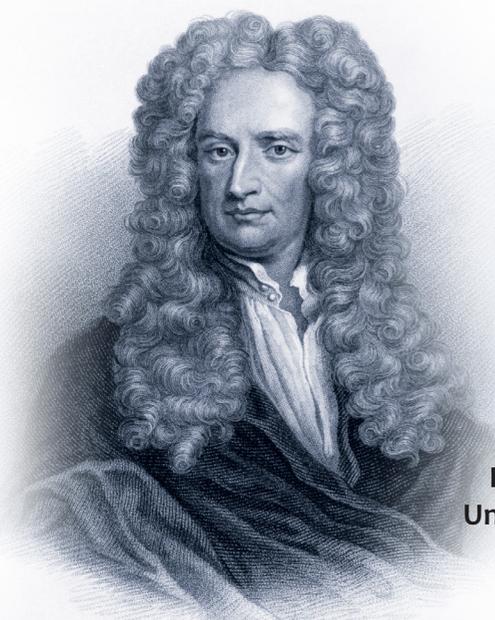




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**PROCESS  
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**FACTORS-IMPERATIVES FOR THE DEVELOPMENT OF THE  
NATURAL RESOURCE POTENTIAL OF THE RUSSIAN FAR EAST**

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**Abstract.** The natural resource potential (discovered, explored and measured reserves of natural resources) of the Russian Federation since the beginning of the 21st century and at present is distributed as follows: about 25% of this potential is concentrated in the European regions of the Russian Federation and the Urals, in the regions of Siberia - about 40%, in the Far East region of the Russian Federation - about 35%. In the Far East of the Russian Federation, they build military and civil aircraft, ships, but the main thing that they bring from here is timber, fish, and minerals. This makes it possible to qualify the Russian Far East as a **resource-type region**. Sustainable development of the Russian Far East and ensuring the competitiveness of its economy is associated with overcoming a number of significant problems and the achievement of the corresponding imperatives of rational environmental management in the region, which are discussed in the article.

**Keywords:** natural resource potential, the Russian Far East, processing industries, imperatives, rational nature management, effective development

According to generalized estimates, the natural resource potential (explored, investigated and measured reserves of natural resources) of the Russian Federation since the beginning of the 21st century (P.Ya.Baklanov, 2001) and is currently distributed as follows: in the European regions of the Russian Federation and in the Urals, about 25% of this potential, in the regions of Siberia - about 40%, in the Far East region - about 35%.

The economy of almost every region of the Russian Federation is mainly associated with the use of natural resources (for example, Siberia and Tatarstan with their oil) [1-4]. Yes, wonderful military and civil aircraft and ships are being built in the Far East of the Russian Federation, but the main thing that is brought from here is timber, fish, and minerals. The above substantiates the need to qualify the Russian Far East as a **resource-type region**. At the same time, the sustainable development of the Russian Far East and the provision of the long-term (and not short-term) competitiveness of its economy in a civilized (and not "predatory") way is, of course, connected with overcoming a number of significant problems and achieving the corresponding imperatives of rational environmental management in the region (tab. 1 ).

**Problem 1. Impossibility to develop the explored resources due to their inaccessibility.** A significant part of the explored natural resources of the Far East of the Russian Federation cannot be used due to the practical impossibility of carrying out effective business operations: supplying energy and delivering the necessary materials and equipment, extracting natural resources, transporting them, processing and selling them (that is, creating effective logistics systems). To a greater extent, this concerns minerals, to a lesser extent - plant and aquatic biological resources. As a result, it turns out that these natural resources seem to exist in the region, but it is impossible to use them. And since it is impossible to use, then, from the point of view of the economy, these resources do not exist! This paradox is caused by the existence of a number of interrelated types of *inaccessibility* of natural resources: energy, transport, technological, ecological, "rent", and economic.

So, for example, the well-known "Sukhoi Log" gold deposit, for the discovery of which a group of Far Eastern specialists was once awarded the "Lenin Prize", is still not being developed due to a number of the above factors of inaccessibility.

**Problem 2. Lack of an optimal balance between openness and "closedness" of the regional economy.** The main condition that reflects the interests of the population of the Far East of the Russian Federation is an increase in the number of funding sources and the total amount of investments in the socio-economic development of the region. In this regard, three main alternatives can be considered:

- all-round state financial support for the development of the Far East of the Russian Federation and the "closed" economy of the region as it observes the "state interests";
- the lack of state investment in the economy of the region, but giving

it complete economic freedom (including in the use of regional natural resources) and ensuring openness to the whole world up to exemption from taxes and customs duties;

- neither one nor the other, but a complete degradation of the economy of the Far Eastern Territory, the lack of jobs, migration of the population outside its borders and, as a result, the loss of the jurisdiction of the Russian statehood by the region.

Of course, none of these options can be implemented in a pure form without harming the sustainable development of the Russian Far East of the Russian Federation and without violating the interests of the state or the Far East.

**Table 1**  
**General problems and imperatives of environmental management (including the extraction of mineral resources) in the Far East of the Russian Federation**

<b>Problems</b>	<b>Imperatives</b>
1. Impossibility to develop the explored resources due to their inaccessibility.	1. Development of explored resources by overcoming their inaccessibility.
2. Lack of an optimal balance between openness and "closedness" of the regional economy.	2. The need for an optimal balance between openness and "closeness" of the regional economy.
3. Exaggeration of the danger of steps to ensure the openness of the regional economy.	3. Justification of the need for steps to ensure the openness of the regional economy.
4. The presence of risks of effective participation of the Russian Federation in the WTO.	4. Avoiding the risks of effective RF participation in the WTO.
5. Imperfection of inter-budgetary relations.	5. Improvement of interbudgetary relations.
6. Insufficient allocation of budget funds to ensure the country's environmental safety.	6. Rational allocation of budgetary funds to ensure the country's environmental safety.
7. Lack of priority of northern (depressed) territories in receiving rent from nature management.	7. Establishing the priority of the northern (depressed) territories in obtaining rent from natural resources.
8. Lack of a concept for the development of natural resources or a nature management program in the region.	8. Formulation of a concept for the development of natural resources or a program of environmental management in the region.
9. The contradiction of some provisions of the federal programs for the development of the region.	9. Elimination of contradictions in federal programs for the development of the region.

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10. Imperfection of distribution of rent from natural resources in the region.	10. Improving the distribution of rent from environmental management in the region.
11. Too big share of exports in the country's GNP and its unsatisfactory structure.	11. Optimization of the share of exports in the country's GNP and its structure.

**Problem 3.** *Exaggerating the danger of steps to ensure the openness of the regional economy.* Often, without any reason, the danger to the interests of the Russian Federation of the openness of the Far Eastern economy is exaggerated. We cannot agree that if the problems of state support for the development of the region are not resolved, and its economy inevitably integrates with the economies of the countries of the Asia-Pacific region (APR) or Northeast Asia (NEA), then the country may simply "lose" the economy of the Far East of the RF.

Firstly, the very fact of the existence of a strong economy in the Russian Far East of the Russian Federation, even fully oriented towards the APR countries, will not mean its irrevocable loss for the country.

Secondly, the economy of the Far East of the Russian Federation will not be able to so easily turn to the APR countries and at the same time successfully develop without the manifestation of a certain political will on the part of the federal authorities, without the implementation of measures that do not require special state budgetary allocations. The country simply does not have funds to sufficiently support the development of the economy of the Far East of the Russian Federation, as the federal government once assured. Federal support for the socio-economic development of the Russian Far East can be based not on financial injections, but on the relevant political (legislative) acts and organizational measures (state management).

Thirdly, if the issues of regional economic development are not resolved in the first (financial) or second (political, organizational) way, then the Russian Federation will lose not the regional economy, but the entire Far Eastern region as part of its territory!

**Problem 4.** *The presence of risks of effective participation of the Russian Federation in the World Trade Organization (WTO).* In fact, today the entire economy of the Russian Federation is competitive in the world arena only in terms of the use of its natural resources. Russian science has serious scientific achievements, but these are mainly ideas, and the competitiveness of national economies in the world market is based, first of all, on high industrial and service technologies operating in the mass production of goods and services. In the meantime, the de facto RF is a raw material

appendage of the world. It is no secret that in the Russian Federation the process of the country's accession to the WTO was promoted ("lobbied"), mainly by representatives of Russian resource-extracting corporations engaged in the export of raw materials. Because within the framework of the WTO, many foreign markets have opened for them (and only for them), where there is increased demand and there is no serious competition. However, not all developed Western countries rigorously recognize and comply with the WTO rules and standards. In this regard, there are significant risks of effective use of natural resources even under the auspices of the WTO.

**Problem 5. Imperfection of interbudgetary relations.** Inter-budgetary relations are one of the complex problems of federalism. The existing Russian practice of interbudgetary relations in many respects repeated the past, which significantly deformed them themselves. There is an opinion that at present there is practically no substantiated differentiation of inter-budgetary relations based on the real economic situation in the constituent entities of the Russian Federation in accordance with objective criteria (depression, backwardness, remoteness, extreme events, etc.).

The reform of the budgetary system should include two main components: centralization and a change in the ratio of individual links in favor of territorial and local budgets with the transfer to the latter of an appropriate share from the federal budget. The real separation of budgetary units, their autonomy from the federal budget, the transition to transfer links between the budgets of all levels make it possible to accumulate amounts of income that are not under the control of the higher budget. In the Russian Federation, according to some estimates, the territories practically controlled no more than 14% of financial resources. This indicated the absence of both real financial independence of the territories and a rational regional socio-economic policy in the country. It is necessary to grant the territories more rights than before in resolving the issues of using the natural resource potential.

**Problem 6. Insufficient allocation of budget funds to ensure the country's environmental safety.** In the RF budget, for example, in 1998, the planned defense expenditures were more than 40 times higher than the expenditures for ensuring the country's environmental safety. There is no such disparity between defense and environmental budget spending in any (even the most militarized) developed country in the world. Everyone knows the direct relationship between a decrease in life expectancy, an increase in the morbidity rate of the population of the Russian Federation and an increase in the level of environmental hazard in the places of its

residence. In terms of their scale, the problems of achieving environmental security should be on a par with the problems of achieving defense security and for their solution require the allocation of equivalent (or commensurate) financial resources.

It is known that the increase in environmental costs can be offset by an adequate increase in the budget revenues due to the improvement of payments for nature use and harmful effects on the environment, the introduction of environmental taxes on products, the system of environmental certification and environmental labeling of domestic and imported goods and technologies, etc. Due to this, many countries receive income that more than covers the needs of environmental protection and reproduction of natural resources.

**Problem 7.** *Lack of priority of northern (depressed) territories in receiving rent from natural resources.* The previous model of economic development based on the "socialist mode of production" was based on the understanding of the natural resource potential as a "common property", which made it impossible for the territories to take part in resolving issues related to environmental management. The transition to a different development model is accompanied by the transition to paid use of natural resources and the receipt by territories of a part of the rental income in the form of one-time and regular payments. As a result, there should be a change in the structure and size of the revenue side of territorial and local budgets. A change in the amount of income leads to a change in economic policy at the territorial level and to a transition from budget spending to financial resource management, based on the long-term interests of territorial development.

At the same time, the catastrophic situation in the northern regions of the Khabarovsk Krai must be resolved by urgent government decisions, namely the development and financing from the state budget of a federal program to support them as depressed areas. It should provide for the allocation of funds from the federal budget to provide a guaranteed federal minimum standard of living of the population in accordance with differentiated social standards, while costs in excess of this standard should be carried out from the local budget. Just by increasing income from trade in licenses for the right to develop minerals, catch fish, catch wild plants and use hunting grounds, Khabarovsk Krai could take on a significant part of the costs of social protection of residents of these areas.

**Problem 8.** *Lack of a concept for the development of natural resources or a nature management program in the region.* Even at the beginning of the 21st century, it was considered unacceptable to lack an official, inte-

gral, substantiated concept for the development of natural resources in conjunction with the development of the territories of the Far East of the Russian Federation, which, in particular, would include the allocation of investments by terms, time and types of resources planned for development, the composition of these investments and the procedure for the distribution of financial resources received from the use of natural resources, taking into account the degree of uniqueness and competitiveness of these resources, etc.

There was also no long-term official (state) comprehensive environmental management program in the Russian Far East. All this did not lead to sustainable development of the Russian Far East. There is only one way out - in the observance of rational ratios of the levels of economic activity and nature management. Obtaining the optimal results of such development depended on the management decisions of the state authorities.

**Problem 9.** *The contradiction of some provisions of the federal programs for the development of the region.* The territory of the Russian Far East is distinguished by a variety of unique natural complexes - from ice deserts to steppes and coastal-sea landscapes. The large and diverse natural resource potential, the strategic importance of the region have largely determined the existing territorial structure of development, the location of industry, agriculture and infrastructure. However, in the last six decades of the last century, this was achieved in such ways and methods that they brought the natural environment of the region to such a state that even the developers of the "Federal Target Program for the Economic and Social Development of the Far East and Transbaikalia for 1996-2005" [5], realizing the depth and complexity of the problems of nature management in this region, did not avoid contradictions in the text of the mentioned program reproduced by them.

On the one hand, they stated that the richest natural resource potential of the region was and remains the most important factor in its development, the basis for stabilizing the socio-economic situation in the future. On the other hand, it was argued that the prevailing raw material specialization of the economic complex determined by this (mining, biological resources of adjacent seas and inland waters, the development of forest resources and the development of agriculture) led in the Russian Far East to large-scale transformations of the natural environment, depletion of traditional natural resources, the emergence of areas and zones with sustainable crisis environmental problems and, in general, a violation of the ecological balance.

**Problem 10.** *Imperfection of distribution of rent from natural resources in the region.* It is known that in the Russian Federation the administrative

territories had little in return for the natural resources taken from them - a significant part of the funds from their use goes to the center. Federal authorities continue to withdraw payments for natural resources, which are actually the property of the territories, including this payment in the number of federal taxes. After that, the administrative territories of the Far East of the Russian Federation, being subsidized, "begged" the federal government for funds that rightfully belonged to them. Even a small number of reasonable aspects of environmental policy were systematically violated both by departmental instructions and by emerging legislative, presidential and government acts of direct action. This situation did not contribute to the normalization of the situation in nature management.

One of the key points of the environmental management policy [6] was the formulation of the principle of an economically expedient ratio in the distribution of financial resources received for the use of natural resources between federal, administrative-territorial and local (district) budgets.

**Problem 11.** *Too large share of exports in the country's GNP and its unsatisfactory structure.* No state can live without export supplies. However, there was an opinion that the share of exports in the gross national product (GNP) should not exceed 10%. Otherwise, the dictatorship of foreign capital and importers begins beyond this line. During the existence of the USSR, exports amounted to 5-7% of the country's GNP. At one time, this indicator increased in all administrative territories of the Far East of the Russian Federation (for example, in the Khabarovsk Krai it reached 30%). For some extractive industries, the share of exports was even higher.

This situation was created by economic and political fluctuations in the country independent of the territories. The main reason for this situation was that, in particular, the domestic consumption of the Far Eastern mineral resources and timber had significantly decreased. The main direction of correcting the current negative situation is the creation of new and modernization of existing processing facilities, which will increase the share of added value in the price of each export product.

Thus, the existence in the Far East of the Russian Federation of the above-listed most serious problems of rational environmental management allows us to designate it as a **"problem region of the resource type"**. Successful overcoming of these problems and the achievement of the corresponding imperatives (orders, imperative requirements) of natural resource management, including the extraction of mineral resources, is associated with the use of logistics management in all sectors of the economy of a given region.

The Far Eastern region represents the Russian Federation in the NEA,

which, in addition to this region, includes Japan, the Republic of Korea (RK), the DPRK, Mongolia and Northeast China. On the one hand, the NEA includes countries with different levels of economic development. Next to Japan, which has a powerful economy, is the DPRK, whose population lives largely on humanitarian aid. On the other hand, it was precisely the difference in the economies of the NEA countries that determined the potential for the most successful and profitable cooperation: Japan, the ROK and the PRC have significant capital, the PRC and DPRK have a surplus of labor, the RF and Mongolia have rich natural resources. The most promising Russian region in terms of strengthening cooperation with the NEA countries is the Russian Far East. This justifies the need for the development of raw materials sectors of the economy of the Russian Far East.

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## MARKETING STRATEGY AS A FACTOR OF FINANCIAL RECOVERY OF THE HOTEL BUSINESS

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**Abstract.** The article is devoted to the consideration of financial recovery as a means of anti-crisis management of the activities of enterprises in the hotel industry. The main ways to optimize the financial condition of a hotel company are considered, a set of marketing activities is presented as one of the most important blocks in the financial recovery of a hotel company.

**Keywords:** financial condition, financial recovery, marketing management, sales promotion, market size, pricing policy analysis.

In modern conditions, the stable functioning of any enterprise is possible with an appropriate level of financial condition. It is characterized by a system of indicators reflecting the real and potential financial capabilities of the organization as a business partner, investment object, taxpayer.

A stable financial condition is defined as the efficient use of resources, the ability to fully and on time to meet its obligations, the sufficiency of its own funds to exclude high risk, the prospects for making a profit, etc. The crisis financial situation is expressed in unsatisfactory payment immobilization. The limit of the crisis financial condition of the enterprise is the state of bankruptcy, i.e. the inability of the enterprise to meet its obligations.

Data on the financial condition of an enterprise are the subject of attention of a wide range of market participants interested in the results of its functioning: owners, creditors, investors, suppliers, tax authorities and other interested parties.

Profit and profitability, as the main financial indicators, are, therefore, indicators of the reliability and stable financial condition of the enterprise, that is, they reflect the ability of a business entity to finance its activities, constantly maintain its solvency and investment attractiveness. The main goal of the financial activity of the enterprise is to increase its own capital and ensure the reliability of the enterprise, as well as its stable position in the mar-

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ket. To do this, it is necessary to constantly maintain the solvency and profitability of the enterprise, the optimal structure of assets and liabilities [1].

For hotel enterprises, the following main sources of reserves for increasing profits and the level of profitability are traditionally determined:

- an increase in occupancy and, as a consequence, an increase in hotel turnover;
- reducing the cost of services due to more rational use of material resources, production facilities and areas, labor force and working time;
- improving the quality of services provided;
- expansion of sales markets for the services provided.

There are two main ways to optimize the financial condition of a hotel company: optimization of performance results (the company should earn more profit) and rational management of performance results. However, the two indicated ways - "to earn" and "to dispose of the earned" - are not equivalent.

Opportunities for optimizing the state of a hotel enterprise through a more rational management of the results of activities are effective, but over time they are exhausted.

In order to prevent complications in the financial condition of the hotel company, it is necessary to develop appropriate measures.

Financial recovery activities can be divided into several blocks: production activities, financial activities, human resources management and marketing.

Marketing involves a wide variety of activities, including marketing research, product development, distribution, pricing, advertising, and personal selling.

Many people confuse marketing with commercial sales efforts, when in fact it combines several types of activities aimed at identifying, serving, meeting consumer needs to meet the goals facing the organization [3].

Marketing as a market management concept declares its general goal as the satisfaction of human needs. Specifying this position, it should be emphasized that the true goals of the marketing system reflect four alternative options:

- achieving the highest possible consumption
  - achieving maximum customer satisfaction
  - providing the widest possible choice
  - should maximize the quality of life.
- Tasks of the marketing:
- research, analysis, assessment of the needs of real and potential buyers;

- marketing assistance in the development of a new product (service);
- providing service maintenance;
- marketing communications;
- research, analysis, assessment and forecasting of the state of real and potential markets;
- research of competitors' activities;
- sales of goods (services);
- formation of assortment policy;
- formation and implementation of the company's pricing policy;
- formation of the strategy of the firm's behavior [4].

Marketing management is the analysis, planning, implementation and monitoring of activities designed to establish, strengthen and maintain profitable exchanges with target customers in order to achieve certain goals of the organization, such as making a profit, increasing sales, increasing market share, etc.

The structure of marketing activities is a set of elements to achieve the set goals and satisfy the target market. The structure includes a product (service), distribution of goods (sales), promotion and pricing. For the specific goals of the company and their achievement, the marketer must choose the best combination of the above elements, for this it is possible to use a number of solutions [5]:

- in relation to the product (service), it is necessary to determine what to introduce on the market, what quality, in what quantity, terms of sale, incentives;
- in relation to commodity circulation (sales), choose the type of sale, the number of points of sale, the type of control or cooperation, and much more;
- in relation to product promotion - determination of promotion tools (advertising, personal sales, sales promotion), determination of promotion agents, methods of measuring efficiency, service level, choice of media, volume and forms of advertising, etc.;
- in relation to pricing - the choice of the price level, range, relationship with quality, the degree of importance of the price factor, type of pricing.

Sales promotion is a marketing activity other than advertising, propaganda and personal sales, which stimulates consumer purchases and the effectiveness of dealers: exhibitions, demonstrations, various non-repetitive sales efforts [4, p. 134].

Carrying out sales promotion activities today is increasingly developing and is an effective and relatively inexpensive method of attracting potential buyers. Sales promotion is used in cases where it is required to:

- increase sales in the short term;

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- support the buyer's loyalty to a certain brand, company;
- bring a novelty to the market;
- support other promotion tools.

The benefits of sales promotion are:

- the possibility of personal contact with potential buyers;
- a large selection of sales promotion tools;
- the buyer can get something valuable and more information about

the company;

- the ability to increase the likelihood of impulse purchases.

But at the same time, it must be remembered that:

- sales promotion has a short-term effect on increasing sales;
- acts as a support for other forms of promotion; requires advertising;
- the firm's image can be undermined by poor quality of incentive elements.

- the solution to sales promotion tasks is achieved using a variety of means.

Let us consider the main theoretical provisions that contribute to solving the problems facing the analysis of the marketing activities of a hotel enterprise. In economic theory, the market is considered, first of all, as a mechanism that ensures the interaction of a large number of sellers and buyers of goods and services.

For each individual enterprise, the market is always specific. And, first of all, it is necessary to determine in which market the firm operates. A specific market may be characterized by territorial features, its own specialization. For example, we can highlight the Togliatti hotel services market, within this market - the economical accommodation market, which unites all hotels offering a limited range of services and their customers. Moreover, for each hotel, the following can be distinguished:

- target market - the market in which the company realizes or intends to realize its goals;

- a barren market, i.e. a market that has no prospects for the sale of services; the given enterprise;

- main, market - the market where the main part of the company's services is sold;

- additional market - a market where a certain volume of services is sold;

- growing market - a market that has real opportunities for sales growth;

- sandwich market - a market in which commercial operations are unstable, but there are prospects of becoming an active market under certain conditions.

It should also be borne in mind that according to the degree of customer interest, the following are distinguished: potential market - unites all customers who are interested in purchasing this service; valid market - all customers who are interested in purchasing this service, who have sufficient payment capacity and access to this service; matured market - customers with a preference for a particular service.

The market is characterized, first of all, by its own conjuncture. Market situation - the economic situation in the market at a certain point in time as a result of the interaction of factors and conditions that determine the ratio of supply and demand for services, as well as the level and dynamics of prices for them, the conjuncture characterizes:

- ratio of supply and demand of hotel services;
- price level;
- the state of competition and barriers to entry into the market;
- degree of government regulation;
- commercial conditions for the sale of services;
- the presence of seasonal fluctuations in demand, etc. [5, p.48]

The company's marketing program is developed and implemented in four key areas. First, it is a product policy, which consists of managing existing products and developing and promoting new products to the market. Secondly, it is a pricing policy, which provides for the consolidation of positions in the market with a new product, entry into a new market and the fastest possible reimbursement of costs incurred and stimulation of complex sales. The next direction is a communication policy, which includes planning and implementation of a product promotion complex. And the fourth direction is sales policy, which includes the study of market conditions at the general economic level, forecast of turnover, preparation of financial estimates, as well as trade reporting [6, p. 191].

It should be noted that in the post-crisis period (after the implementation of measures for the financial recovery of the organization), the management of enterprises cannot afford to treat the institution as a newly created enterprise. The organization must already be able to behave in a competitive environment.

In the context of the financial recovery of the organization, the marketing function becomes one of the main functions of the organization. In crisis situations, the goal of marketing is to ensure the conditions for obtaining the necessary funds (sufficient profit) for the organization from increasing the volume of sales of its products. The construction and organization of the performance of the marketing function depends on the size of the organization, the specifics of production, the variety of products it produces,

the consumer properties of products (or services), the characteristics of the markets in which it operates, and other factors [6, p. 190].

Organizations in crisis are in decline. Therefore, they need activities that would help maintain demand for the product and introduce new products (for example, price reduction, quality improvement, product modernization, service improvement, advertising increase, etc.). In a downturn, it is also possible to reduce the volume of production of a product, with the subsequent termination of its release, improve an old product, or begin a transition to the release of a new product.

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## MACRODYNAMICS OF THE SUBSIDIZED REGIONS IN RUSSIA

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**Abstract.** An economic region is the main item of the regional statistics of the Russian Federation. Nowadays there are near 90 of regions and according to the Federal budget all the regions are subsidized with the exception of a few. In this paper we present new methodology of analyzing the economic dynamics of subsidized regions. First of all, we introduce index that allows us to separate truly subsidized regions from technically subsidized. Second, we construct and statistically estimate macroeconomic model of the gross regional product dynamics of truly subsidized regions.

**Keywords:** economy of Russia; regions of Russia; fiscal equalization; applied econometric analysis.

### Introduction

The problem of fiscal equalization is widely discussed in economic literature [1]. The idea is to transfer fiscal resources across jurisdictions with the aim of offsetting differences in revenue and to get maximum effects for economic growth [2, 3]. Several issues arise when we try to analyze the efficiency of such redistribution and first of all, how to determine truly subsidized and technically subsidized regions for which fiscal transfer are not critical for economic development.

### Building an index

Detection of steadily (truly) subsidized regions in Russia is a non-trivial task. According to the Federal law on the budget of Russia<sup>1</sup> in 2019, subsidies are received by all regions except ten (Kaluga Region, Moscow Region, city of Moscow, Leningrad Region, city of St. Petersburg, the Republic of Tatarstan, Samara Region, Sverdlovsk Region, Tyumen Region, Sakhalin Region). It would be truly naive to classify all regions, with the ex-

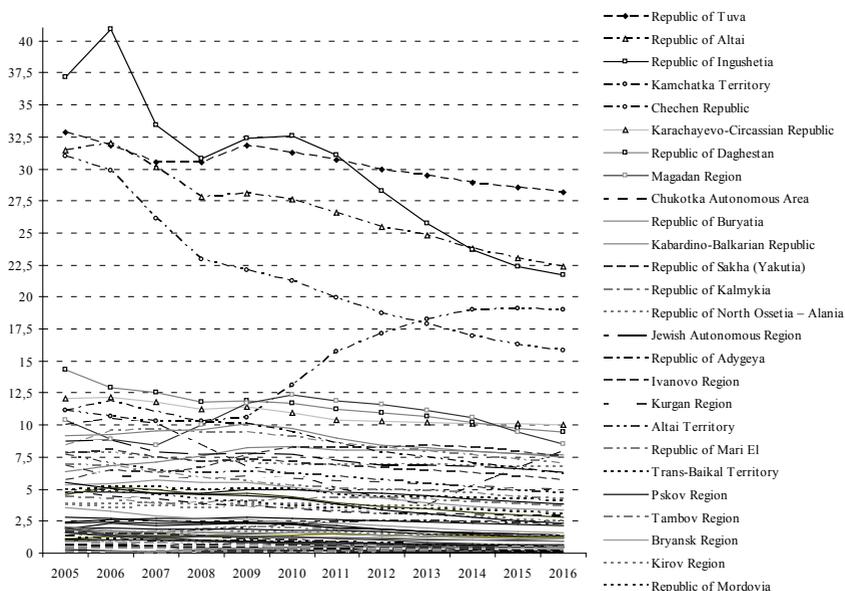
<sup>1</sup>The Federal law of 29.11.2018 N 459-FZ "On the Federal budget for 2019 and the 2020 and 2021 planning period". Table 84 "Distribution of subsidies to equalize the budgetary provision of the subjects of the Russian Federation for 2019 and the 2020 and 2021 planning period».

ception of the ten mentioned, as truly subsidized (although formally this is the case). It is possible to consider several criteria for classifying the region as truly subsidized: by the volume of subsidies (share of the total amount of subsidies), by the share of subsidies in the regional economic activity, by the statistical significance of the impact of the size of subsidies on the growth rate of the region's economy.

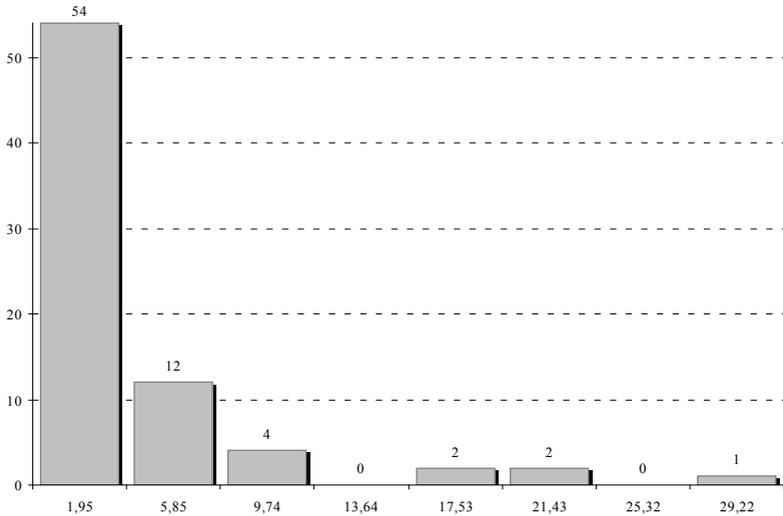
We offer new *index* which is based on gross regional product dynamics and volume of transfers to the region. The definition of *index*:

$$Index_T^R = \frac{\sum_{i=2004}^T SUBSIDY_i^R}{\sum_{i=2004}^T GRP_i^R} \times 100\%, \text{ where } SUBSIDY_i^R \text{ — nominal}$$

subsidy for  $R$  — region of  $i$  period,  $GRP_i^R$  — nominal gross regional product of  $R$  — region of  $i$  period,  $T = [2004; 2016]$ .



**Fig. 1. Index trajectories — ratio of accumulated subsidies for the region to the cumulative GRP**



**Fig. 2. Distribution (density) of Russian regions by *index* value — ratio of accumulated subsidies for the region to the cumulative GRP, as of 2016**

According to statistical analysis of the data, see Fig. 2, about 90 per cent of the regions of Russia falls within the interval [0; 5] by the value of ratio of accumulated subsidies to the cumulative GRP. A similar pattern is observed in the dynamics, see Fig. 1. Below is a summary table 1 of subsidized regions with an *index* value of more than 5%. The value of the *index* can vary over time: for a number of regions there is a decrease in the role of subsidies in the economy of the region, for some regions there is a sharp increase. For this reason, the table shows the average multi-year values of the *index*.

**Table 1. Subsidized Russian regions with index value — ratio of accumulated subsidies for the region to the cumulative GRP, exceeding 5%**

Region of Russia	<i>Index</i> value %
Republic of Tuva	30.38
Republic of Altai	26.94
Republic of Ingushetia	30.01
Kamchatka Territory	14.53
Chechen Republic	21.57
Karachayevyo-Circassian Republic	10.90

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Republic of Daghestan	11.46
Magadan Region	10.41
Chukotka Autonomous Area	7.09
Republic of Buryatia	7.67
Kabardino-Balkarian Republic	8.85
Republic of Sakha (Yakutia)	7.46
Republic of Kalmykia	8.54
Republic of North Ossetia – Alania	7.11
Jewish Autonomous Region	7.43
Republic of Adygeya	8.96
Ivanovo Region	6.89
Kurgan Region	5.68
Altai Territory	5.99
Republic of Mari El	5.41

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*Remarks:* The long-term average *index* values are given for the period 2004-2016.

Further in the article, the regions listed in table 1 will be considered as truly subsidized. On average, these regions account for about 52 percent of the total volume of regional subsidies. Regions not included in the table 1 but getting some subsidies will be considered as technically subsidized.

### **The macro-dynamics of the truly subsidized regions of Russia**

For truly subsidized regions, the main factor affecting the dynamics of the gross regional product is the amount of subsidies to the region from the Federal budget [4]. For example, the co-integration model of the following type is valid for the Republic of Daghestan:

$$\log GRP_t = a_0 + a_1 \log SUBSIDIES_t + e_t,$$

where

$GRP_t$  — gross regional product (deflated base index),

$SUBSIDIES_t$  — volume of subsidies to the region,

$e_t$  — residuals which assumed to be stationary.

The table 2 includes estimates for co-integration parameters and statistical properties of relationship for the Republic of Daghestan.

Note that other factors (world crude oil prices, export price of Russian crude oil, world cereals prices) do not play such a clear role in the dynamics of the gross regional product of the subsidized region, see table 3. As it was mentioned above, for truly subsidized region the influence of other factors is suppressed by main — volume of subsidies to region.

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Similar results were obtained for other truly subsidized regions, see table 4.

**Table 2. Statistical estimates and quality of the Republic of Daghestan GRP dynamics model. Endogenous variable — logarithm of the Republic of Daghestan constant-price GRP base index**

Exogenous variables	Estimates
Constant	-28.075*** (0.931)
Logarithm of subsidy to region base index	1.841*** (0.055)

Sample size — 16 observations: 2001-2016  
 $R^2 = 0.99$   
 $F(1,14) = 1120 (0.000)**$   
 AR 1-2 test:  $F(2,12) = 0.821 (0.463)$   
 ARCH 1-1 test:  $F(1,14) = 0.031 (0.862)$   
 Normality test:  $\chi^2(2) = 3.163 (0.206)$   
 Hetero test:  $F(2,13) = 0.319 (0.733)$   
 Hetero-X test:  $F(2,13) = 0.319 (0.733)$   
 RESET23 test:  $F(2,12) = 1.571 (0.248)$

*Remarks.* Standard errors are given in parentheses. \*\*\*, \*\*, \* — 1, 5, 10% significance level.

In the above constructed system we used correction of the nominal value of *SUBSIDIES* for the basis price index on the consumer market of the region. After that we used the test of Dickey-Fuller ([5]), [6] for testing stationarity (non-stationarity) of time series. This test tells us that all initial variables have the order  $I(1)$ . This result gives us reasons for searching cointegration relationship. Residuals in the constructed relationship are stationary (test of Davidson-MacKinnon [7]). So, the constructed macroeconomic relationship is of true cointegration type. The analogous results were obtained for other types of regions.

**Table 3. Statistical estimates and quality of the Republic of Daghestan GRP dynamics model. Endogenous variable — logarithm of the Republic of Daghestan constant-price GRP base index**

Exogenous variables	Estimates
Constant	-27.806*** (1.275)
Logarithm of subsidy to region base index	1.899*** (0.113)
World cereals price	-0.304 (0.372)

World crude oil price 0.003  
(0.003)

Sample size — 16 observations: 2001-2016

$R^2 = 0.99$

$F(3,12) = 338.7 (0.000)**$

AR 1-2 test:  $F(2,10) = 1.131 (0.361)$

ARCH 1-1 test:  $F(1,14) = 0.073 (0.791)$

Normality test:  $\chi^2(2) = 1.328 (0.515)$

Hetero test:  $F(6,9) = 0.691 (0.663)$

Hetero-X test: not enough observations

RESET23 test:  $F(2,10) = 1.822 (0.212)$

*Remarks.* Standard errors are given in parentheses. \*\*\*, \*\*, \* — 1, 5, 10% significance level.

**Table 4. Coefficient of determination  $R^2$  for co-integration models. Truly subsidized regions of Russia**

Region of Russia	$R^2$
Republic of Tuva	0.96
Republic of Altai	0.92
Republic of Ingushetia	0.82
Kamchatka Territory	0.90
Chechen Republic*	0.89
Karachayevo-Circassian Republic	0.97
Republic of Daghestan	0.99
Magadan Region	0.83
Chukotka Autonomous Area	0.51
Republic of Buryatia	0.86
Kabardino-Balkarian Republic	0.95
Republic of Sakha (Yakutia)	0.95
Republic of Kalmykia	0.77
Republic of North Ossetia – Alania	0.96
Jewish Autonomous Region	0.84
Republic of Adygeya	0.96
Ivanovo Region	0.87
Kurgan Region	0.81
Altai Territory	0.93
Republic of Mari El	0.94
the estimation sample	2001-2016
no. of observations	16

*Remarks:* \* — due to missing data the estimates are given only for the period 2006-2016.

Let us pay attention to the weak statistical quality of the model for the Chukotka Autonomous Area ( $R^2 = 0.51$ ). The analysis of Fig. 3 reveals the reason for this result: since 2005, there has been a steady decline in the role of subsidies in the economy of the region. Since 2013, there has been a sharp increase in the volume of subsidies. If not for a sharp jump in the volume of subsidies to the region since 2013, according to the analysis of the distribution of regions from the previous Chapter, the Chukotka Autonomous Area would not have been included in the list of steadily (truly) subsidized regions, which affected the quality of the model.



**Fig. 3. The role of subsidies in the economy of the Chukotka Autonomous Area**

**Conclusions**

It is essential to distinguish between many regions steadily (truly) subsidized, for which the influence of macro-factors could be overwhelmed by regularly received subsidies. To tackle the problem we introduce *index* which separate subsidized regions into two clusters. The analysis of regions in terms of subsidies revealed the stability of the group of subsidized regions over time, as well as the stability of the form of the empirical curve of the distribution of regions by the *index* value – the ratio of accumulated subsidies of the region to the accumulated GRP. Macroeconometric modelling becomes possible for clustered regions which we illustrate with an example of gross regional product dynamics.

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## DEVELOPMENT OF THE VILLAGE'S SOCIAL INFRASTRUCTURE

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**Abstract.** The purpose of the article is to study the foundations of the development of the social infrastructure of the municipal district. The theoretical and methodological foundations of the development of the social sphere of small municipalities are investigated. The dependence of the development of the social sphere of rural municipalities on the socio-economic development of the region and the country is revealed, the factors of development of socially significant industries are systematized in accordance with the sphere of action. The factors hindering the development of social infrastructure in the Ermekeyevsky district of the Republic of Bashkortostan are systematized. The main strategic directions for the development of the branches of the social sphere of the municipal district are proposed.

**Keywords:** Education, healthcare, social services, culture, living standards, demography, investment, tourism, entrepreneurship

### Introduction

The standard of living of the rural population remains extremely low, and the income gap between urban and rural areas is widening. The main factors hindering the development of rural areas are the following: limited access of rural residents to life support resources and inefficiency in their use; insufficient scientific, statistical and personnel support for sustainable development of rural areas.

The strategy of socio-economic development of a municipal formation is a document that defines the priorities, goals and objectives of the socio-economic development of the municipal district in the long term, coordinated with the priorities, goals and objectives of the socio-economic development of the Russian Federation and the Republic of Bashkortostan, as well

as defining the main ways to achieve them based on the effective use of potential, resources and competitive advantages. The strategy is based on the following directions: development of human capital and social sphere; economic development; spatial development; development of municipal finance; development of municipal government.

General principles of building a strategy: concreteness (a specific vision of results in the long term); measurability (use of quantitative and qualitative indicators, criteria and assessment methods); achievability (setting goals taking into account resource constraints); relevance (significance and relevance of goals for the development of the territory); limited time (setting specific terms for implementation). When substantiating the materials of the strategy, forecasts of socio-economic development and budget forecasts for the medium and long-term periods of the Russian Federation and regions are taken into account.

The object of the research is the social sphere of the municipal district Ermekeevsky district of the Republic of Bashkortostan.

The strategy of socio-economic development of the Ermekeyevsky district should be aimed at achieving the main goals: creation by 2030 of a territory on which favorable socio-economic conditions for strategic development have been created; stabilization and growth of the rural population by reducing mortality, reducing the migration outflow of the population; employment provision; increasing the level and quality of life, taking into account modern requirements and standards; increasing the efficiency of agriculture and the contribution of the territory to the socio-economic development of the republic [1].

The goals are implemented through a system of strategic directions formed on the basis of the identified competitive advantages, problems in the economic and social spheres, tasks and directions of development of the Republic of Bashkortostan and the country as a whole.

### **Materials and methods**

*The theoretical basis* of the study is the works of domestic and foreign experts in the field of formation and development of social infrastructure in rural areas as part of the socio-economic system aimed at maintaining and implementing human capital, as well as in terms of modernizing the social infrastructure of the region as a condition for its functioning and economic development, applied to the set goals and objectives of the study.

*The methodological basis* of the research is a systematic approach, economic and statistical analysis, dialectical method, calculation and analytical method, comparison methods, experimental statistical method.

*The information base* of the analysis was made up of legislative acts

of the Russian Federation, the Republic of Bashkortostan, data from the State Statistics Committee of the Russian Federation, RB, reports of the administration of the municipal district Ermekeevsky district of the Republic of Bashkortostan.

### **Results**

*1) The theoretical and methodological foundations of the development of the social sphere of small municipalities are investigated.*

The dependence of the development of the social sphere of rural municipalities on the socio-economic development of the region and the country is revealed, the factors of development of socially significant industries are systematized in accordance with the sphere of action, which are divided into:

1) external, arising at the level of the macroeconomic system (political and legal factors, investment interests, tax policy, state support, state innovation policy, technical and technological factors, etc.)

2) internal - at the level of the social infrastructure of the municipality (the financial condition of social infrastructure enterprises, the stability of the economic system of the municipality, etc.)

The main problems of public sphere management include:

- assistance and development of educational institutions on the territory of the municipality;

-modernization of subprograms of social workload and improvement of the social work network;

-regulation of social support for low-income and disabled people;

-provision of medical services to the population through the mechanism of social insurance and the formation of a network of departmental medical institutions (hospitals, clinics, hospitals and sanatoriums);

-organization and hosting of cultural events, holidays and festivals;

-implementation of measures of sanitary - hygienic, environmental protection, protection of places of mass burials and others [2].

The activities of municipal authorities in rural areas are governed and regulated by the Constitution of the Russian Federation, federal laws and other normative legal acts of the Russian Federation.

*2) The factors hindering the development of social infrastructure in the Ermekeyevsky district of the Republic of Bashkortostan were identified and systematized.*

Analysis of the development of the main components of the social infrastructure of the municipal district Ermekeyevsky district of the Republic of Bashkortostan showed that there are 17 socio-cultural centers in the region, where a kindergarten, a school, a library, a club, a paramedic station,

a post office are located under one roof, which is economically expedient and convenient for the population [3].

The rate of coverage of children aged 1 to 6 years by preschool educational organizations in the period 2010-2018 decreased from 48.2% in 2010 to 43.3% in 2018, which is 27% lower than the corresponding figure for the Republic of Bashkortostan, table 1.

**Table 1. Coverage of children aged 1-6 years by preschool educational organizations (As a percentage of the number of children of the corresponding age) [4]**

	2010	2015	2016	2017	2018
In the Republic of Bashkortostan	58,8	69,3	69,2	70,7	70,4
Ermekeyevsky district	48,2	42,0	42,9	44,7	43,3

Health care is represented by a polyclinic for 140 visits per shift, the Central District Hospital, 28 feldsher-obstetric points, and 1 dental office [3].

The standard of living of the rural population remains extremely low, and the income gap between urban and rural areas is widening. The implementation of state measures to ensure the social development of the countryside led to the revitalization of housing construction and the improvement of rural settlements, an improvement in the quality of educational and medical services [5].

The general indicators of population reproduction indicate a natural decline in the population of the Republic of Bashkortostan and the Ermekeyevsky district in particular. Nevertheless, the indicators in the Ermekeyevsky district in 2018 are times higher than the indicators of natural population decline for the same period in the Republic of Bashkortostan in the context of 1000 people. This indicates the predominance of mortality over births, table 2.

**Table 2. General indicators of population reproduction in the republic and the municipal district (in the number of people per 1000 population) [4]**

	Born		Dead		Natural growth, ("-" decrease)	
	2017	2018	2017	2018	2017	2018
In the Republic of Bashkortostan	12,1	11,6	12,4	12,4	-0,3	-0,8

	Born		Dead		Natural growth, ("-" decrease)	
	2017	2018	2017	2018	2017	2018
In the MD Ermekeyevsky district	9,3	8,8	15,5	15,4	-6,2	-6,6

The following factors were identified that hinder the development of the social infrastructure of the municipal district Ermekeyevsky district of the Republic of Bashkortostan:

- restriction of access of villagers to life support resources and inefficiency of their use;
- insufficient scientific, statistical and personnel support for sustainable development of rural areas;
- reduction in the number of educational and cultural institutions;
- reduction in the number of hospital beds and medical personnel;
- the growth of those in need of housing;
- reduction in the number of citizens using social support measures;
- decrease in the number of job vacancies;
- monopoly of individual organizations in the sphere of production and circulation.

3) *The main strategic directions for the development of social sectors of the Ermekeyevsky district of the Republic of Bashkortostan are proposed.*

The mechanism for improving the process of managing the social infrastructure of the municipal district Ermekeyevsky district of the Republic of Bashkortostan includes the development of municipal-private partnerships and intermunicipal cooperation for the implementation of significant projects: the construction of an agricultural processing enterprise and processing and manufacturing industries using local raw materials, the construction of a plant for the production of expanded clay, the construction of modern workshops on milk processing and oil extraction from sunflower seeds within the framework of the formation of agricultural processing cooperatives, the development of tourist clusters, stimulation of agro- and ethno-tourism.

Ermekeyevsky district has sufficient resources to take an equal place in the tourism industry with the regions of the Republic of Bashkortostan, traditionally considered tourist ones. The tourist market is growing, and tourists are striving to get into new, little-explored regions in order to enjoy the interaction with nature, as evidenced by the growing flow of unorganized (amateur) tourists from other areas.

As part of the commercialization of the tourist potential of the Ermekeyevsky district, the following tasks should be solved:

- development of tourist infrastructure and the formation of an accessible and comfortable tourist environment in the territory of the municipal district;

- creation of a competitive tourist product and its promotion in the republican and Russian tourist markets.

A comprehensive measure for the development of this priority will be the formation of a single tourist cluster on the basis of inter-municipal interaction with the Bizhbulyak MD and the city of Tuymazy.

To attract a tourist flow to the Ermekeyevsky district, it is necessary to develop a niche of ethno-tourism in MD. Tatars - 36.4%, Bashkirs - 28.6%, Chuvash - 14.6%, Russians - 11.8%, Mordovians - 3.4%, Udmurts - 3%, people of other nationalities - 2.2% live in the district in a good neighborhood. The cultures of neighboring peoples make the area attractive to ethno-tourists. The development of tourist programs based on ethno-cultural enlightenment and the identity of the ethnic groups of Bashkortostan can become the hallmark of the Ermekeyevsky district.

The proposed projects reflect the directions of socio-economic development of the Republic of Bashkortostan and are possible in the context of a modern legal framework.

At the municipal level, the implementation of the strategy in the real sector of the economy is facilitated by municipal programs:

- Development and support of small and medium-sized businesses in the municipal district Ermekeyevsky district of the Republic of Belarus;

- Development of agriculture and regulation of markets for agricultural products, raw materials and food in the territory of the MD Ermekeyevsky district of the Republic of Belarus.

Timely launch and successful implementation of projects will allow the municipality to reach the target indicators of socio-economic development in the real sector. In general, for the economy of the Republic of Bashkortostan, the implementation of the proposed projects will contribute to the growth of the indicator of self-sufficiency in agricultural products, that is, the food security of the region, and the growth of the well-being of the inhabitants of the republic.

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**IMPROVEMENT OF THE STATE PROGRAM FOR THE SUPPORT  
OF FAMILY, MOTHERHOOD AND CHILDHOOD IN MODERN  
CONDITIONS**

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**Abstract.** The article is devoted to the analysis of state support for families and children, the relevance of which has significantly increased in the context of a pandemic and self-isolation. In modern conditions of a decrease in the level of income of the population, support for such unprotected groups such as children, large families and other categories is increasingly manifested. At the same time, we are witnessing a decline in living standards and a decline in economic indicators, which entails a decrease in fertility rates, since the population is not confident in the future and in their ability to provide a decent life for the new generation. The state understands the importance of population renewal and therefore focuses on improving state social support for families with children.

**Keywords:** family, childhood, motherhood, social support, state support

The concept of "Family" – is a small group based on consanguinity and / or marriage, the members of which are united by cohabitation and housekeeping, emotional connection, and mutual obligations towards each other. The family is a social institution, that is, a stable form of relations between people, within the framework of which most of people's daily life is carried out: sexual relations, childbearing and primary socialization of children, an essential part of household care, educational and medical services, especially in relation to children and the elderly. The family is the strongest source of emotional reactions, providing a person, in a favorable case, recreation, understanding and support [1].

The relevance of the research topic is due to the fact that the most important condition for solving the demographic problem in our country is the

legal support of motherhood and childhood. The growth of the country's healthy population is ensured through social and legal protection of the health and well-being of families, women and children. Of course, mothers and children need special protection.

Legal protection from the state is guaranteed by the provisions of the Constitution of the Russian Federation, according to which the Russian Federation is a social state, the policy of which is aimed at creating conditions that would ensure the free development and dignified life of a person, state support for motherhood, fatherhood, family and childhood.

The main directions of state support for childhood and motherhood are material support for low-income families and indexation of the size of child-care benefits, regional and state "Maternity capital", as well as expanding the goals of spending these capital, various benefits for paying for services in preschool institutions and schools, benefits for payment of utility services. However, with all the variety of forms and directions of state support for mothers and children, all of the above measures are of a declarative nature, and are provided upon requests and applications, and not on the fact that there is a right to such social support. In connection with the current situation, the problem of state support for mothers and children, in the light of the current demographic situation, is relevant today.

In Russia, many acts of legislation on social support for large families have been adopted, these are compensations, payments, benefits, and, in addition, discounts and subsidies. But the problem is that many families with many children have no idea that they have the right to social support, and the state is often not too eager to inform citizens about their rights. And in most cases, information about the benefits is passed by word of mouth, in line at the clinic, at playgrounds.

Another problem is that the provision of benefits in our country is based on the declarative principle. This presupposes that if a statement is not written and it is not proven that there is a right to provide benefits, then it will not be received, so the state cut off from social assistance provided by law, everyone who does not know about it. The purpose of the proposed methodological recommendations is to provide methodological assistance in the independent study of Russian legislation in the field of social protection of large families in the Russian Federation, both for employees of social protection authorities and for parents of large families.

The expected result from the use of these guidelines is to help in independent study of social protection measures for large families at the regional and state levels, as well as in the generalization and systematization of the knowledge of employees of social protection bodies in the field

of support for large families by the state.

The main task of the state in this area is to provide conditions for stable family well-being, which depends on a number of factors: family income, availability of educational and medical services, housing conditions, physical and moral health of children and adults, and many other factors.

It is this principle that should become the basis of the concept and family policy that is pursued by the state. Providing conditions for increasing the birth rate, protecting mothers and children, strengthening the institution of the family are priority social tasks in the Russian Federation.

As the President noted in his last Address to the Federal Assembly in January 2020, at the end of 2019, the fertility rate is 1.5 per woman. For the Russian Federation, with its vast territory, this is very small, and the task has been set to reach the birth rate by 2024 with a coefficient of 1.7. It is very important that the President paid the most attention to the issues of demography and family, he spoke about these areas at the very beginning of the Address.

Thus, the problem of the lack of places in preschool and childcare institutions was recognized as one of the urgent problems. For these purposes, the government of the country allocated funds from the federal budget for the arrangement of over 255 thousand new places in the nursery by the end of 2021. At the same time, in 2018-2019, instead of 90 thousand such places, only 78 thousand were created. To date, an educational license has not been obtained for the rest of the places.

In fact, the birth of a child presupposes that one of the family members, who is economically active and able to work, loses his previous earnings, and the second spouse must financially support her. But in this case, the previous level of well-being simply cannot be ensured, since the social benefit does not reach the same values as the salary earlier. This implies that the birth of even one child entails a deterioration in the material well-being of the family as a small social group.

The task of the welfare state is to compensate for such losses, however, the question arises of how to do this, since the implementation of social payments in the amount, for example, of the previous level of wages is not possible, since the citizen is on parental leave and does not work. Maybe the way out is that the funds allocated now for "maternity capital" are directed to the fund for paying benefits for caring for a child until they reach the age of 3-4 years, so that this benefit is as close as possible to the average earnings of that family member who takes care of the child.

The condition for receiving social benefits for the child is the low aggregate income of the parents. However, at the same time, the following

question arises: how to link this social assistance and the concept of a prosperous family in the doctrine of the welfare state? Is the family that receives this benefit dysfunctional? However, and from another point of view, how can it be considered prosperous if the income level does not provide an opportunity to ensure a decent life for all family members? In this case, the conceptual status of families with low aggregate income who are eligible for social benefits becomes completely unclear.

The state must determine what is the reason for receiving social assistance at the birth of a child - the low social income of family members or support for the institution of childhood, motherhood and the family as such.

If support is provided only on the basis of low aggregate income, in fact, this is how social and economic disadvantage is stimulated. And if the support is provided in connection with the birth of a child, for what reason is it tied to the total income of parents, because in our country the birth of children occurs not only in the context of private family law, but also in the sense of solving the global demographic problem of reducing mortality and increasing fertility. From this it can be concluded that the state provides social support not in connection with the birth of a child, but in connection with the finding of a family with a child in a difficult social and economic situation that is close to unfavorable.

This approach is not conducive to improving the demographic situation in the country, and is aimed at reproducing the general level of disadvantage and low income. In this regard, one cannot fail to draw attention to the fact that the general concept of state family and demographic policy needs improvement.

Among the funds that are aimed at improving the social protection of the family, measures should be included that allow parents to combine the care of children and their upbringing and work. For this reason, the legislation in this area should have provisions that would be aimed at ensuring that young people develop a desire to have a family and many healthy children. To do this, for young people who have married, it is worth providing:

- tax incentives;
- provision of long-term loans on favorable terms;
- a special mechanism for the provision of residential premises with payment by installments;
- free provision of garden, land plots;
- different types of social support for a young family;
- financial and material assistance at the birth of each child.

The state must also create conditions for improving the quality and standard of living of an ordinary, normal Russian family and its social prestige.

Recently, the state has done a lot in order to increase the authority of the family, to approve its decisive role in the upbringing of children, to establish state awards, including regional ones, which are awarded to families with many children [2].

For example, in the Republic of Bashkortostan, one area of the regional project "Financial support for families at the birth of children" and the national project "Demography" is in vitro fertilization of women suffering from infertility. In 2019, 246 million rubles are provided for these purposes (due to the basic compulsory health insurance program). According to the Ministry of Health of the Republic, in the first half of the year, 1,035 in vitro fertilization procedures were performed (the plan for 2019 is at least 2025) for a total amount of 136 million rubles.

Also, within the framework of the regional project "financial support for families with children", families with three or more minor children are exempted from the transport tax up to 150 million rubles annually. One of the parents (adoptive parent) or guardian (guardian) in a family that is recognized as a large family, for vehicles with engine power up to 150 horsepower inclusive, as well as for buses with engine power up to 125 horsepower - at the option of one vehicle of each type, exempt from paying tax [3].

The second regional project of the national project "Demography", supervised by the Ministry of Family and Labor of the Republic of Bashkortostan, is to promote the employment of women - to create conditions for preschool education for children under the age of 3 years. The goal of the project is to enable women with children to combine work and family responsibilities, including by expanding opportunities for preschool education for children under 3 years of age. 2 billion 761 million rubles are provided for the implementation of this regional project in 2019 (4.9 billion rubles for 2019-2024).

The media, public organizations and political parties should be actively involved in the work aimed at raising the values of responsible parenthood and motherhood and a healthy lifestyle. Now such a family-oriented information and educational policy is being formed.

The priority social tasks in the country are: ensuring conditions for increasing the birth rate, protecting childhood and motherhood, strengthening the institution of the family. They are of key importance for the present and future state and need coordinated, systematic work of authorities at all levels, both society and citizens, work that should have common goals and clear, understandable criteria for achieving them.

The main task of the state in the field of family policy is to provide conditions for stable family well-being, which depends on living conditions, fam-

ily income, accessibility and quality of medical and educational services, moral and physical health of adults and children, and many other factors. The President of the Russian Federation proposes to change the vector of family policy, direct it from caring for people in need of social protection, to providing conditions for improving the quality and standard of living of an ordinary, normal Russian family and its social prestige.

The key problems in the field of childhood, motherhood and family are: low income in families with children; insufficient number of places in pre-school organizations; providing housing for orphans; family trouble; insufficient level of support for socially vulnerable families with children; devaluation of traditional family values.

The following measures of control and solutions to these problems are proposed:

- development of a support system aimed at increasing the economic activity of the family, preventing irresponsibility and social dependency;
- conducting an experiment on additional support for families with 8 or more children, which would envisage giving one of the large parents the opportunity to earn a pension at the same time as the process of raising their children;
- the creation of non-state preschool educational institutions and the widespread development of variable forms of supervision and care of children, the construction and creation of new preschool places, including for toddlers;
- expanding the practice and mechanisms for applying special conditions for mortgage lending to young families with one or more children;
- development of effective technologies for preserving the economic, educational and social functions of a family that has found itself in a difficult life situation;
- the formation of a consistent information policy of the state, which would be aimed at promoting conscious parenting, a healthy lifestyle, and traditional family values;
- creation of an environment (leisure, cultural, informational, educational and sports) that is friendly for families with children;
- involvement of non-profit organizations, citizens and socially oriented entrepreneurship in the sphere of social services;
- development of a new Family Code;
- delineation of powers between levels of government in the field of social support for families;
- taking measures aimed at preserving the health of adolescents and children;

## Process Management and Scientific Developments

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- complex restoration of the system of sanatorium treatment and health improvement for families with children and children;
- development of football fields, sports grounds at the place of residence, at schools;
- a return to state assignments for the creation of children's thematic animation and feature films, which have a huge educational value;
- a ban on the reduction of nursery groups;
- toughening the legislation regarding those who do not fulfill their parental duty;
- expanding the access of women with young children to higher education.

Experts and practitioners emphasize the need to standardize the process of providing an extensive list of certain services for families and children, which have been used in work for more than a year and have confirmed their own effectiveness.

One of the approaches to improving the child protection system is to prioritize the development and implementation of standards for preventive services. Content of government obligations to adjust towards an increase in the share of expenditures on preventive services provided to a family and a child at an early stage of disadvantage at their place of residence.

It is required to professionalize the decision-making process for each child due to a significant update of the monitoring and diagnostic tools, which is used by the guardianship authority in cases of making legal decisions. The toolkit should be brought in line with current evidence-based knowledge in the field of child psychology.

The development of practice requires a significant improvement in the process of advanced education and training of specialists. Methods and forms of professional development should undergo changes. It is required to leave the walls of educational institutions and undergo training on the basis of services that are carriers of the best domestic experience. An effective way to improve qualifications also consists in supervising the analysis of complex cases and professional difficulties of specialists in the child protection system.

With the restrictions due to the pandemic of the new coronavirus infection, the slowdown in the dynamics of social and economic development in the Russian Federation has become natural. The decline in economic activity began in March and was not yet large-scale, but the ensuing period of non-working days significantly and negatively affected final consumption.

To support the income level of citizens during the coronavirus pandemic, the state has taken additional measures of social support for the popu-

lation and, first of all, families with children. At the end of March 2020, the President of the Russian Federation signed Decree № 19929, according to which, from January 1, 2020, monthly payments are introduced to low-income families with children aged from 3 to 7 years old, in the amount of 50% of the subsistence minimum for children in the region.

So, families with children receive a significant amount of social support, which will help smooth out the negative consequences of lower incomes of the population and an increase in poverty risks that have arisen as a result of the spread of the coronavirus pandemic.

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## IMPROVED MANAGEMENT OF HISTORIC AND CULTURAL HERITAGE SITES

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**Abstract.** This article is devoted to the study of issues and problems of the implementation of management activities for the protection of cultural heritage sites. The author studied the concept and role of historical and cultural heritage in the development of the state. The role of the preservation of objects of cultural significance and their regulatory and legal status in foreign countries is revealed. As a result of the analysis of the state of this sphere in one of the constituent entities of the Russian Federation, problems of the functioning of this sphere were identified. In the course of the study, general aspects of the development and improvement of the management system for the protection of objects of historical and cultural heritage are proposed, the need for systemic development in various areas: public administration, education, culture, public opinion, informatization of society is revealed.

**Keywords:** objects of historical and cultural heritage, monuments of history, architecture, protection of objects of cultural significance.

Historical and cultural heritage feeds modern science, education, culture. Along with natural resources, it is the basis for national and personal self-determination and self-esteem, as well as recognition by the world community. Modern civilization has realized the highest potential of the historical and cultural heritage, the need for its preservation and effective use as one of the most important resources of the world economy.

Given the specifics of the historical development of mankind, a fairly large part of objects of historical and cultural significance are located on the territory of modern Europe [1].

**Table 1. Objects of the world cultural and historical heritage by territories for 2020**  
(according to UNESCO data)

Territories	Number of objects				Share of total
	cultural heritage	natural heritage	mixed	Total	
African countries	96	38	8	142	12,67
Arab states	78	5	3	86	7,67
Countries in Asia and the Pacific	189	67	12	268	23,91
Countries in Europe and North America	453	65	11	529	47,19
Latin America and the Caribbean	96	38	8	142	12,67
Total	869	213	39	1121	100

To date, more than seven dozen normative legal acts have been developed in European countries that regulate relations in the field of protection of historical and cultural heritage. The main normative acts are the European Convention on Culture [2], the European Convention on the Punishment of Damage to Cultural Property [3], the European Convention for the Protection of Architectural Heritage [4] and the European Convention on the Protection of Archaeological Heritage [5]. In 1972, the world saw the Convention on the World Cultural and Natural Heritage [6]. All countries that have signed this convention, including the Russian Federation, take responsibility for the protection of cultural and historical values and objects. The fundamental article of this document is the article providing for the assistance of the Community to countries and organizations in the field of protection, preservation and popularization of culture.

The UN specialized organization for culture, UNESCO [7], on its website informs everyone interested in the topic of heritage preservation, objects and other materials. Their information portal contains a lot of information on all aspects of this area. It should be noted, however, that this organization is not the only one in this area. Among these organizations, the activities of the International Council for the Conservation of Monuments and Sites (ICOMOS), the International Council of Museums (ICOM), the International Research Center for the Conservation and Restoration of Cultural Property (ICCROM), the Organization of World Heritage Cities (OWHC) stand out.

The territory of the Russian Federation is large and multifaceted, each of the corners has its own special features and characteristics. For example,

in the Republic of Bashkortostan there are slightly less than 2,000 cultural heritage sites (among them are historical and architectural monuments, art monuments, ancient graves, parks, historical monuments - memorials and a large number of archeological monuments). About fifty objects have been put under state protection. A mixed natural and cultural site "Bashkir Ural - Ural-Batyr land", including the "Shulgan-Tash" cave, was included in the preliminary list of UNESCO World Heritage Sites.

The most important monuments of history and culture in the Republic of Bashkortostan are the Monument to Salavat Yulaev, the First Mosque, the Shulgan-Tash Cave, the Aksakovsky People's House, the Bandalik Mausoleum, the Church of the Nativity of the Virgin.

There is an annual Action Plan for the preservation of immovable objects of cultural heritage of the Republic of Bashkortostan (design, conservation, repair and restoration work, monitoring, promotion, conservation, archaeological, historical and architectural research, scientific and publishing work). Funds are allocated from the budget of the Republic of Bashkortostan.

On the territory of the Republic of Bashkortostan there are 12 licensed organizations and individual entrepreneurs who work in the field of preserving cultural heritage (historical and cultural monuments). However, there are no restoration specialists certified by the Ministry of Culture of the Russian Federation with a category assignment.

The effectiveness of the implementation of measures for the state protection of cultural heritage in a certain historical period depends on the organizations of the state protection system.

It so happened that, in the end, there is not enough funds for specific sectors financed by regional budgets. In this regard, problems arise in the functioning of these industries. The following problems can be identified in the sphere of preserving objects of historical and cultural heritage:

- lack of budget funding;
- some legal inconsistencies in the definition of ownership and forms of ownership of objects of historical and cultural heritage;
- poor development of the sector of non-profit organizations (charitable foundations, etc.) supporting objects of historical and cultural heritage;
- almost complete lack of attention to objects of historical and cultural heritage on the part of business structures.
- obsolescence of the existing material and technical base and, accordingly, an increase in the volume of objects subject to reconstruction;
- a significant shortage of experienced and qualified personnel capable of working in new conditions; in this area;

- lack of comprehensive strategies for the development of the industry in the medium and long term;
- weak interaction between individual institutions of government bodies and direct managers in the field of preservation of objects of historical and cultural heritage.

In this case, it is also worth noting that the situation is aggravated by the fact that the protection of objects of historical and cultural heritage belongs to the sphere of culture, and in the management of this area, more attention is paid to cultural and leisure activities and institutions. Thus, in order to increase the effectiveness of activities in the field of protection of objects of historical and cultural heritage and its management, it is necessary to change the approach to its perception on the part of state authorities. In this area, the following steps should be taken:

- the sphere of protection of objects of historical and cultural heritage should be given more weight in the development of support and management programs, since, in addition to the general influence on the formation of national self-determination, this sphere also has a direct practical impact on the development of the tourism and hospitality sector;
- it is necessary to combine the objects of natural and historical and cultural heritage, since their significance and influence are undoubtedly equal;
- it is necessary to highlight certain areas of influence on the development of educational activities in this area, both on issues of general education of the population and on the training of qualified personnel for work in this area;
- it is necessary to develop the activities of the mass media in the direction of objects of natural and historical and cultural heritage.

A big problem is the lack of information about the objects of natural and historical and cultural heritage. In the period up to 2000, more than a dozen objects of cultural heritage were destroyed in the republic, many objects have lost their historical and artistic value due to inconsistent reconstruction without project documentation, the work of unskilled workers. In this regard, the most acute issue arose about the inventory of objects of natural and historical and cultural heritage. Currently, there is a concept of the Unified State Register of Cultural Heritage (Historical and Cultural Monuments) of the peoples of the Russian Federation. To include objects in this register, it is necessary to collect a significant amount of information for each object, which falls on the shoulders of regional authorities. To date, there is no provision on the assessed value of a cultural heritage object, on the basis of which it is possible to establish the value of the object during privatizations and determine the insurable value of the heritage object.

At the moment, work continues to improve measures of state protection of cultural heritage: changes are being made to the structure of executive authorities at both federal and regional levels; the legislative base is being improved; the state of the monuments is checked, the conditions of protection obligations are met, etc.

The solution to the issue of improving the management of the protection of historical and cultural heritage monuments should be approached systematically, the work should be carried out in many aspects simultaneously. So it is necessary to connect and modernize not only the activities of the authorities and administration, but also the public (in matters of forming public opinion and responsible attitude towards monuments of history, culture and architecture), the media (in matters of informing and covering problems and activities), the sphere education (for training personnel and enhancing education), the sphere of culture and many others.

Cultural and historical resources are of particular importance in the complexes of tourist and recreational resources; they determine the specificity of the cultural and historical potential of territories. The resource potential allows us to form various types of recreation, but territories with a long history and cultural monuments attract our attention to the development here, first of all, of cultural and educational tourism, that is, tourism, the purpose of which is to acquaint and study the cultural heritage. Thus, the support and development of cultural and historical monuments and objects allows the development of the territory, including by attracting more tourists and visitors to the territory, which in turn provides additional sources of funding and development.

A systematic approach to the modernization of the sphere of protection of cultural heritage objects of the state and the region will improve this activity, ensure the preservation and transfer of cultural heritage to future generations and increase the overall level of cultural development of the population.

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## STATE REGULATION OF THE DEVELOPMENT OF THE TRANSPORT SERVICES MARKET IN KAZAKHSTAN

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**Abstract.** The article deals with the issues of state regulation of the development of the transport potential of Kazakhstan. The authors provide data characterizing the state of the country's transport system. The possibilities of improving and coordinating the development of the country's transport services market are analyzed.

**Keywords:** transport services, transport accidents, transport, route, transport and logistics system.

At the present stage of development of the Republic of Kazakhstan, the state needs new mechanisms for reforming the economy, defining development priorities in the context of globalization, and creating an industrial infrastructure [1].

The purpose of the state transport policy is to increase the efficiency of transit traffic through the territory of the Republic of Kazakhstan, to meet current and expected needs for transport services, to improve their quality. The state has also identified the priority tasks for the development of the country's transport potential:

improving coordination in the development of transport infrastructure, development and implementation of large projects in transport construction, the introduction of new transport technologies and equipment;

the most effective use of the country's geographical position, the concentration of the transport complex in the global transport system;

the formation of competitive international transport corridors on the ter-

ritory of Kazakhstan, the creation of necessary and sufficient conditions for increasing the transport potential of the country;

standardization of transport, production and distribution processes, creation of multimodal transport systems based on logistic principles;

creation of a database and predictive models (information and communication complex) to ensure the correctness of management decisions.

The development of the country's common economic space largely depends on the degree of development of the transport infrastructure in each region. In this regard, as the trend of balanced regional development and decentralization of the transport system continues, the need to strengthen the interaction of central and local authorities in matters of state regulation of transport activities becomes especially important.

Priority tasks for the development of the automotive market and transport services:

provision of rural settlements with regular public transport for passengers according to the scheme of prospective location and development of productive forces;

improving the quality of the provided transport services by introducing new advanced technologies for the transportation of passengers and goods, increasing the comfort of passenger transportation by changing (increasing) the level of organizational and technical requirements for the implementation of this type of transportation.

Service is one of the most prestigious areas in our automotive market. Demand is growing daily for the following reasons:

- transport parks have been working for many years, because the economy of our state is constantly developing, transport is becoming more accessible, the credit system is developing (getting transport on credit);

- improving the welfare of the population and the number of people who have the opportunity to buy a car is growing;

- the device of the car is becoming more and more complex and requires a specialized service for its maintenance and repair;

- increased competition contributes to lower prices for services, there are various discounts for the service, so it is easier for a consumer to give a car for repair than to repair it himself and waste his golden time.

In the near future, the country is expected to increase the fleet of cars. Due to the acute shortage of repair and maintenance services for machines, an increase in the number of enterprises is expected, and this industry is receiving great attention in the market.

Today there are many service establishments, everywhere you can see ads like "auto repair", "car repair", "car sale", etc. Car service is a profit-

able business. Today, together with the service centers of official branded dealers, authorized car manufacturers, the activities of auto repair enterprises are focused on the repair of one or several vehicle brands or even the implementation of individual service units. Or works of the same type, such as body repair, engine repair, etc. For seasonal work, many private mechanics offer their jobs, working in car workshops of two to five people (often in regular garage boxes). Active forms and types of services are being introduced, such as self-service points, as well as technical assistance on the roads and much more.

The car has become part of the global consumer market and each offers consumer-friendly solutions to companies that now want to grow. The car maintenance and repair activities in the sales and spare parts sector are currently great opportunities. In the world about one hundred thousand companies are engaged in such business. The park places high demands on the development and operation of the car service system. Under the influence of the complexity of automotive technology, the number of not always qualified specialists in the technical process, heavy traffic and other factors, a new industrial direction has appeared - car repair. This trend is far from the traditional understanding of the features of maintenance and operation of vehicles in the field of consumer services.

The intensive development of the transport complex is aimed at introducing the most environmentally friendly and energy-saving transport technologies, ensuring the safe operation of transport and increasing the negative impact of transport on the environment by reducing its negative impact to a level that meets international norms and standards. Modern operations to expand international cooperation, socio-economic integration inevitably lead to the need to modify existing models of national economies on the basis of further development of the economic potential of the state and increasing its competitiveness in the international market [2].

As a result of privatization and the introduction of market mechanisms, many private transport companies in Kazakhstan became the owners of the road transport industry: the number of legal entities and individuals providing road transport services exceeds 150 thousand units, and the number of employees associated with the transportation of passengers and goods exceeds 800 thousand people. Currently, there is a shortage in the field of road safety associated with a high rate of deaths and injuries, a large number of road accidents. The rolling stock of road transport belongs to one of the objects of increased danger.

The key factors for the high rate of accidents in road transport are: an increase in the number of small businesses that do not have the

necessary conditions to meet the requirements for the safe operation of vehicles in the market for passenger and freight traffic;

- limited implementation of modern transport management tools;
- non-observance of technological processes of transport regulation;
- insufficient qualification of drivers and low transport discipline;
- physical wear and tear and poor technical condition of the car;
- low efficiency of the system for monitoring compliance with requirements in the field of road safety and preventive work.

And international practice shows that inadequate development of transport systems at the national level leads to an inexplicable increase in costs in the spheres of production and services, delays in the development of practically all spheres of economic activity, and restrictions on social guarantees of citizens.

The current trend in the automotive industry and car maintenance has led to a number of technical, economic, social, law enforcement and other serious problems during the period of intensive development of society. The development of the state system of vehicle maintenance will be more intensive and efficient if:

- use the achievements of advanced experience and scientific and technological progress;
- to introduce innovations in the technology of repair and maintenance of cars;
- develop and use automation systems, mechanization and maintenance of repair processes;
- to improve the methods of organization and the production process of working models;
- to organize repair and service work, as the maximum consumer service at a car service at the place of residence of the car owner;
- to predict and on this basis plan the demand of the population for the products of car service in the region, city and state;
- create obstacles to the theft of property by introducing a system of measures, improving accounting and control over other crimes;
- increase autonomy, introduce computer support.

Each of these areas has important technical, economic and social significance for the development of automotive services.

Recently, the liberalization of the economy, aimed at the maximum development of market relations and the development of a competitive environment in the transport system, has created real preconditions for further economic progress. Over the years, a market for transport services has developed in Kazakhstan, sufficient for economic growth.

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## THE ECONOMY OF THE CATERING INDUSTRY IN A PANDEMIC AND IN THE POST-PANDEMIC PERIOD. RISK ANALYSIS AND FORECASTS

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**Abstract.** The article examines the current processes taking place in the catering economy - an area whose state has changed significantly in the context of the COVID-19 pandemic. The article contains data on the current state of the industry, indicates the key risks and forecasts. The aim of the study was to identify the factors that somehow affect the catering sector, and forecasts how this will affect in the short term.

**Research methods:** analysis of statistical data, publications in the media, analogies.

**Keywords:** public catering, economics, COVID-19, pandemic, risks, delivery, recession.

### Introduction

The outgoing year has become a period of serious upheavals and dramatic changes in the catering sector. The industry, like many others, that first faced the pandemic and its challenges, turned out to be one of the most vulnerable in the economy.

All this is not surprising, since the catering industry itself is an area of increased business risks. In the first half of the decade, the average pay-back period for restaurants was 6.7 years, then rose to 7.5 years. These figures were cited in October 2015 by "Kommersant", referring to a study by the consulting company 2B Dialog [1].

The 2020 pandemic has significantly increased the risks for this business. This was a widespread phenomenon, characteristic of many countries, but in Russia, where strict self-isolation rules were in force in the spring, this manifested itself more strongly than in countries that practiced

relatively lenient measures. Catering establishments in Russia were closed for two months and could only function in the delivery mode or take-away service. This unprecedented situation was shocking. This can be seen, for example, according to a recent study by "2B Dialogue", which analyzed the state of small business (parameters: the duration of the business is not less than 3 years, the cost of the business is not less than 500 thousand rubles, the volume of proceeds is 500 thousand rubles - 1,500,000 rubles), if in 2019 the indicators of the profitability of sales of cafes and restaurants in the capital were 23% and 25%, respectively, then by the end of the first half of 2020 (January - May) there was a decrease in both segments to 10% [2].

The relaxation that took place in the summer slightly straightened the situation, but the system failure did not cancel. Igor Bukharov, President of the Federation of Restaurateurs and Hoteliers, noted that since March, almost 40% of catering establishments have changed owners. The main blow fell on those who worked in rented premises in large cities [3].

Now, when in the whole country catering establishments operate, albeit with some local restrictions, the business has not returned to its previous indicators. Here is the data provided by the operator of the fiscal data "Platform OFD": in October (1-20), the sales of bars and restaurants were - compared to the same period last year - 22% lower, and canteens and cafes - by 20%. September figures are about the same - sales decreased by up to 17% compared to the same period in 2019. This means that even the removal of restrictions did not bring demand back to the "dock" level. The drop in demand was primarily due to a drop in income. Many market players assumed this in advance. The head of the restaurant Italy Group (17 establishments in Moscow and St. Petersburg) said in June that the lifting of restrictive measures will show people that they will not have enough money for their previous life. And in such cases, spending on restaurants will definitely recede into the background [4].

A more local but significant business risk was the shortage of delivery couriers. The surge in demand for food delivery has provoked the same courier shortage, multiplied by local factors. For example, there was a serious outflow of migrants in the capital - their number this year, said Moscow Mayor Sergei Sobyenin, has decreased by almost one and a half times, by 40% [5].

Nevertheless, delivery has become a real driver, a tool for maintaining (and for many, a real salvation) business in more or less working order. At the very beginning of the pandemic, in March, the number of restaurants offering delivery increased by 18%; another 9% of market players were preparing to launch this service as soon as possible. These figures were

cited in a study by Data Insight and Delivery Club, presented in April [6].

And already three months later, the data was much more impressive. In July, it was food delivery that became the leader among other services of the new covid era - take away and drive thru (ordering food without leaving the car). Both takeaway and car ordering showed, according to an NPD study, a 10 percent increase over July 2019, and food delivery showed a 100 percent increase [7].

### **Risk forecasts**

In the summer, after returning to their previous working condition, many restaurateurs were in a low-key optimistic mood. A survey by Data Insight and Delivery Club, conducted in July, showed that 59% of restaurants expected a revenue recovery by the end of the year, 41% - by the spring of 2021 or after the epidemic ends [8]. What do we see now? The forecasts of the majority of market players did not come true. The IV quarter was marked by the continuation of the market decline caused by the second wave of the pandemic. The head of the RBC analytical group, Sergei Khitrov, in early December announced the expected figure for the IV quarter - minus 17.4%. "If the second wave of the pandemic had not come, the fall would have been no more than 3-4%," Khitrov believes [9].

According to the results of the year, the forecast of RBC analysts is a decrease in market turnover by 21.3%. Recovery will begin (and here RBC's conclusions coincide with the hopes of market players surveyed by Data Insight and Delivery Club) in the second half of next year [9]. The market will thin out significantly, many players will leave, first of all, these will be non-network establishments, but the share of networkers will continue to grow. In any case, everything depends on demand, which is formed on the basis of purchasing power.

### **How long will the recession last**

To understand this, let us turn to previous large-scale crises and their consequences. In the period from autumn 2008 to spring 2009, the consumer confidence index dropped significantly, to 82 points. Then this process reached a plateau and increased by 6 points by September. Such figures are given in the Nielsen study "Russians Through Crisis" [10]. The positive dynamics was provided by consumers' willingness to spend: every third (31%) Nielsen survey respondent considered the next 12 months (that is, the period from autumn 2009 to autumn 2010) an excellent or good time to shop. In May, the mood was different - only 19% of the respondents thought so [10].

It is impossible to fully draw parallels between the situation in 2009 and the current situation - the recession is likely to be more severe. In any case, we can assume that the consequences of the pandemic in the economy will be clearly felt (paired with regularly extended social distancing measures) for at least a year. Approximately the same time frame is given in a study by Harvard University - its authors believe that exactly 2022 will be the final year for the action of various isolation measures [11].

So, we are most likely talking about a year of "waiting", during which it is necessary to rebuild business models, master new technologies - in order to survive the period of recession and adapt to the current conditions.

### **What measures should be taken by players in the catering market**

Taking into account the phenomenal demand for the delivery service and the growth of this service - to organize delivery processes (either independently or using aggregators). To achieve the maximum speed of response to orders, for which to rebuild the technology of cooking.

For establishments that do not want to lose the offline segment, they should orient themselves (taking into account climatic conditions and the duration of the warm season) to open verandas. This will be an attractive factor for consumers who are concerned about their safety and do not want to sit at tables in an enclosed space.

To fill the menu as much as possible with hot and thermally processed dishes - as the safest for customers. It is mandatory to use this information for marketing purposes.

### **Conclusions**

The recovery of the pre-crisis level of incomes of catering establishments should be expected in 2022. The process of returning to the previous indicators will take at least a year. Taking into account the fall in demand caused by a decrease in purchasing power, one can expect serious losses, as well as the withdrawal from the market of about a third of market players.

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## FORECASTING THE TRANSFORMATION OF INDIVIDUAL PROFESSIONS IN THE DIGITAL ECONOMY BY 2035

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**Abstract.** The article examines the risks of transforming economic and legal areas of training in higher education in the context of the transition to the digital economy until 2035. As an example, the directions of training and specialties of the Novosibirsk State University of Economics and Management are taken.

**Keywords.** Digital economy, digital transformation, artificial intelligence, new professions, forecasts.

The digital economy transforms not only the business processes of companies and organizations, but also a number of industries and sectors of the economy. New technologies are making serious adjustments to the profession, which are in demand on the market today [1]. This has become a key factor in conducting a lot of research on the list of occupations that are at risk and the emergence of new occupations [2]. Higher education schools, in such conditions, also face uncertainty in the choice of training areas for students.

In the course of digital transformation, universities are faced with a re-assessment of many of the current popular areas of study. This article assesses the degree of its influence on humanitarian areas, which at the moment are extremely in demand among applicants. One of the largest universities in the Novosibirsk Oblast, Novosibirsk State University of Economics and Management (NSUEM), is taken as an example.

NSUEM implements about a hundred areas of training, most of which are related to humanitarian types. Despite many forecasts for a decrease in market demand for economic and legal professions, applicants still choose areas that implement such professions as:

- accountant;
- auditor;
- specialist in the banking sector;

- financier;
- manager;
- sales manager;
- lawyer;
- marketer;
- property appraiser.

Although this list is incomplete, it can be considered a marker for assessing the impact on the entire economic and legal sector (under the focus of demand on the labor market).

Each profession from the above list has its own path of transformation in the digital economy. To determine the elements of transformation, it is necessary to consider each of the professions in the form of the key functions that it provides to the market and to analyze the changing needs in the future digital economy market.

The analysis was carried out by an expert group of the Novosibirsk State University of Economics and Management. The table "Transformation of professions" has been compiled. In this table, in the first column, the profession with key functions is presented today, in the second - the projected result of the profession by 2035, in the third - examples of professional functions in demand in the market in 2035 with the approximate name of the professions.

**Table 1. Transformation of professions**

<b>Profession in 2019</b>	<b>Result of transformation by 2035</b>	<b>Examples of functions in 2035</b>
Auditor Functions: control of transparency of market relations	Transformation. Preservation of the profession in the digital economy market in a transformed form.	1. Digital content auditor, 2. Specialist in setting up audit bots, 3. Auditor of the digital interaction of the network ecosystem 4. Digital property auditor 5. Auditor of cyber-currency relations
Accountant Functions: accounting of the movement of resources of the organization	Leaving the market. Complete replacement of functions by information technology.	

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Financier Functions: attraction and management of the organization's financial resources	Transformation. Preservation of the profession in the digital economy market in a transformed form.	1. ICO Consultant 2. Consultant on setting up personal and corporate financial bots 3. Crowdfunding consultant
Marketer Functions: market analysis	Transformation without drastic changes. New effective tools are added that increase the importance of the profession for the digital economy market	1. Marketer (no changes)
Sales manager Functions: sales	Transformation without drastic changes. New effective tools are added that increase the importance of the profession for the digital economy market	1. Sales specialist (no changes)
Lawyer (regulation of legislative relations and conflicts)	Transformation. Preservation of the profession in the digital economy market in a transformed form.	1. Regulation of relations (collisions) of digital content 2. In-game legal regulation (game industry) 3. Regulation of legal conflicts at the intersection of digital and traditional markets 4. Regulation of VR ownership
Manager (team management)	Transformation without drastic changes. New effective tools are added that increase the importance of the profession for the digital economy market	1. Manager (no changes)
Appraiser (property valuation)	Transformation. Preservation of the profession in the digital economy market in a transformed form.	1. Digital Property Appraiser 2. Intellectual Property Appraiser

The table took into account forecasts of technology development until 2035 and the degree of influence of the emergence of new information services and services on professional functions over the past 20 years.

The following conclusions can be drawn:

1. Information technology will reduce functions (take over from human "manual" labor), but not professional functions for the market. The need for functions in the digital economy will remain. An exception is the "accountant", whose functions will remain, but will be completely transferred to the "machine".

2. The new digital content market (the industry of production, filling, maintenance, regulation of digital content) will expand significantly with almost limitless opportunities for expanding the market.

3. Many new related functions will emerge both in the transformed professions and at the intersection of the digital economy and the traditional one. New features will be relegated to existing professions.

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## LEGAL CAPACITY OF ARTIFICIAL INTELLIGENCE

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**Abstract.** Digitalization of the economy makes research in the field of artificial intelligence relevant. The introduction of robots in all spheres of human life gives rise to problems of responsibility for the actions of artificial intelligence, for example, in the event of an accident involving an unmanned taxi. No less relevant is the problem of intellectual property in the results of intellectual activity. Who should be considered the author of a work created by artificial intelligence: the robot itself, man? These practical problems entail the need for a scientific and theoretical understanding of the personality of the robot. The article explores the basic approaches to understanding artificial intelligence, its types. It is determined as the degree of autonomy of artificial intelligence can determine its legal personality.

**Keywords:** artificial intelligence, legal personality, robots, entrepreneurial law, legal capacity

### **Intriduction**

Artificial intelligence is associated with the idea of a "singularity" of events, which implies the indistinguishability of the natural and the artificial. However, the desire of the "natural" to "artificial" itself is associated with the achievement of the "border" of the spread of the artificial. As civilization develops, the degree of mutual influence, the interaction of natural and artificial reality increases. At the same time, the artificial today has substantially supplanted the subjective world of a person, his subconscious, but, on the whole, the spiritual, intellectual seeks to enter into a relationship of harmony with everything artificial, including artificial intelligence [1].

The introduction of the concept of "electronic face" into scientific circulation is primarily due to the specifics of a fundamentally new subject of law. This concept is intended to reflect its essence and legal specificity. At

the same time, you can focus on the conceptual series "electronic face" - "artificial intelligence" ("electronic individual") - "robot". Moreover, artificial intelligence, the carriers of which are robots that meet certain criteria, must be considered as the basic component of an electronic face. Therefore, first of all, it is advisable to turn to such a category as "artificial intelligence"[2].

Presidential Decree 05/09/2017 No 203 approved the Strategy for Information Society Development in Russian Federation for 2017-2030 (from now on - the Strategy), introduce concepts digital economy and digital ecosystem. In order to implement the Strategy, the Government of the Russian Federation dated July 28, 2017, No. 1632-r approved the program "Digital Economy of the Russian Federation."

Digitalization of the economy makes research on this subject relevant. Artificial intelligence has spread to almost all spheres of human life: production, trade, medicine, transport. Increasingly, the question of the legal personality of electronic persons is being raised.

So, recently, the world met with a citizen of Saudi Arabia - the robot Sofia. This event seriously made us think about the robot as a subject of law, the features of its legal status.

Introduction to the scientific turnover of the concept of "electronic face" is due primarily to the specifics of a fundamentally new subject of law. At the same time, you can focus on the conceptual series "electronic face" - "artificial intelligence" ("electronic individual") - "robot". Moreover, artificial intelligence, the carriers of which are robots that meet certain criteria, must be considered as the basic component of an electronic face. So, first of all, it is advisable to refer to the categories as "artificial intelligence" [3, p. 40]

An electronic face in science is understood as a carrier of artificial intelligence (machine, robot, program) that has a humanlike mind, the ability to make decisions that are conscious and not based on the algorithm laid down by the creator of such a machine (robot) and, therefore, endowed with certain rights and obligations [4 ,p. 359].

### **Discussion**

In the United States, a bill on the future of artificial intelligence (Future of artificial intelligence act of 2017, 115th Congress USA) is under consideration [8].

In this bill, artificial intelligence is understood to mean:

(A) Any artificial systems that perform tasks in changing and unpredictable circumstances, without significant human control, or which can be trained based on their experience and improve their performance. Such systems may be developed in computer software, physical equipment, or

in other contexts that are not yet considered. They can solve problems requiring human perception, cognition, planning, training, communication, or physical action. In general, the more humanlike the system in the context of its tasks, the more it can be said that it uses artificial intelligence

(B) systems that think like a person, such as cognitive perception and neural networks

(C) Systems that act like humans, such as systems that can pass the Turing test or another comparable test through natural language processing, knowledge representation, automatic reasoning, and learning.

(D) A set of methods, including machine learning that seeks to approach some cognitive task.

(E) Systems that operate rationally, such as intelligent software agents and embedded robots that achieve goals through perception, planning, reasoning, training, communication, decision making, and action.

Also, the bill introduces the concepts of general and narrow artificial intelligence. Under the general artificial intelligence refers to the future conceptual system of artificial intelligence, which demonstrates, apparently, intelligent behavior, at least as advanced as in humans, in the range of cognitive, emotional and social behavior. The term "narrow artificial intelligence" means an artificial intelligence system that is designed for specific applications, such as strategy games, language translation, auto-controlled cars, and image recognition.

We believe that the legal personality of an electronic person must correspond to the level of its autonomy.

A. A. Zhdanov identifies two types of artificial intelligence - autonomous and subordinate. Autonomous artificial intelligence is characterized by adaptability, emotional apparatus, freedom of decision-making, subordination to oneself. In contrast to autonomous, subordinate artificial intelligence solves intellectual problems previously solved only by man. These systems automate some intelligent functions and solve situational problems. Such systems are subordinate to man and his target functions [6].

In the scientific literature, the question of whether a smart robot should be vested with rights is discussed, ethical issues of using robots are raised. Analogies with the slave system are given, in which the slave was also not considered a person.

Substantiation of the concept of legal personality of artificial intelligence carried out in several ways: a legal personality as an individual in a truncated form as the fiction of the legal person as a tax to the legal status of the animal (in which the rights of property distributed by the Civil Code).

It is also proposed to consider the robot as a particular type of property.

Morhat P. M. Identifies the following approaches to solving the question of the legal personality of a unit of artificial intelligence [5, p. 300-301]:

- The concept of an individual subject concerning an electronic person (the legal personality of an artificial intelligence unit, correlated (comparable, comparable with the legal personality of a person);
- The concept of the collective subject of law in relation to an electronic person (the legal personality of an artificial intelligence unit, correlated with the legal personality of a legal entity
- The concept of special limited legal personality of electronic persons in the context of agent relations.

We believe that phenomenology is the most applicable to substantiating the legal personality of artificial intelligence. Artificial intelligence is a new independent phenomenon in legal science. Therefore, it makes no sense to justify legal personality based on previous legal constructions. We believe the electronic person is a specific quasi-subject of law, endowed with individual elements of legal personality. The volume of the legal personality of such a person depends on the degree of autonomy of artificial intelligence.

So, in the Resolution of the European Parliament dated 02.16.2017 Civil law on robotics, special attention is paid to the so-called "smart" robots, to which the document has the following attributes:

- Autonomy through sensors or by exchanging data with its environment ( interconnectivity ), the ability to analyze data;
- Self-learning ability
- Physical support (physical body)
- Adapting behavior and action to its environment
- Lack of biological life

In addition, various kinds of ethical questions arise: should counterparties know that they interact with a robot, and not with a person, for example.

Therefore, the issue of information disclosure is being disclosed in a new vein. It is proposed to oblige to provide information on the number of robots used by the company and on interaction with the robot.

The European Parliament Resolution of February 16, 2017 2015/2013 (INL) P8\_TA-PROV (2017) 0051 recommends that when assessing the consequences of a legislative proposal, the EU Commission should take into account and analyze all the possible effects of any legal decisions in this area, including :

- a) creating a mandatory insurance system, where possible and necessary, for specific categories of robots. Just as in the case of car driver liability insurance, manufacturers and owners of robots must insure the risks of potential harm to robots;

b) ensuring the real use of the funds of the compensation fund, and not just a formal guarantee of the payment of compensation. Funds from this fund should be used to pay compensation in cases where insurance does not cover the damage caused by the robot;

c) partial exemption from liability of the manufacturer, developer, owner or user of the robot, provided that they contribute funds to the compensation fund, as well as if they jointly insure liability to guarantee compensation for damage caused by the robot;

d) the decision to create a common compensation fund for all smart autonomous robots, or, conversely, to create separate funds for each category of robots. It should also be decided whether it will be necessary to make a one-time contribution to the fund when introducing the robot into civilian circulation, or whether contributions will need to be made throughout the life of the robot;

e) ensuring that the relationship between the robot and the compensation fund can be traced by assigning each robot a specific registration number entered in a separate registry in the EU. With this number, each person interacting with the robot will be able to get more information about the fund, from which money will be collected for compensation, to receive information about cases of limitation of liability in cases of damage to property, about the persons forming the fund, and their functions, and also any other necessary details;

f) on granting in the future robots a special legal status. Thus, at least the most advanced autonomous robots can be created as electronic entities and be liable for damage caused by them in those cases when they make decisions autonomously or otherwise independently interact with third parties;

*In the international aspect, it is noted that the existing international private law rules in respect of road traffic accidents in force in the EU do not require immediate drastic changes due to the development of autonomous vehicles. At the same time, simplification of the existing dual system for determining applicable law (based on Regulation (EU) No 864/2007 of the European Parliament and the Council, as well as the Hague Convention of May 4, 1971 on the law applicable to traffic accidents) will contribute to legal certainty and limit the list of options for choosing the most profitable jurisdiction;*

In this connection, it is expedient introduced five amendments in international agreements such as the Vienna Convention on Road Traffic of 8 November 1968 and the Hague Convention on the law applicable to road traffic accidents. This will enable unmanned driving. EU commissions, EU member states, and industry representatives need to implement the provi-

sions of the Amsterdam Declaration as soon as possible.

It is also argued that it is necessary to give a generally accepted definition of smart autonomous robots in the EU. In this case, it is necessary to define their subcategories (if necessary) and take into account their following characteristics:

- the ability to become more autonomous, using sensors and/or exchanging information with the environment (compatibility) and analyzing it;
- the ability to learn based on experience gained and in the process of interaction;
- availability of the form of physical support for the robot;
- the ability to adapt their actions and behavior following environmental conditions.

### **Responsibility problem**

The next important issue is the issue of liability. In the case of a smart robot endowed with the property of autonomy, the question arises of liability for damage caused to it.

Under current law, electronic persons do not have legal personality. Therefore, they cannot be held responsible for the actions of third parties (owner, user, operator or manufacturer).

A competent subject is distinguished by the presence of his own will. The higher the autonomy of the robot, the more volatile it is. If the robot does not have its own will (slave artificial intelligence), it can fill a person (man).

Besides, an intellectual component of behavior - the ability to be aware of their actions and their consequences- is very important.

The ability to bear responsibility is closely related to the ability to recognize guilt.

Although the issue of responsibility for the actions of the robot has not been resolved due to the lack of special legal regulation on this issue, many companies that use or intend to use artificial intelligence in their activities have chosen a liability insurance model.

So, the Yandex company, which launches unmanned taxis, has chosen just such a compensation model.

Given the possible danger posed by the use of artificial intelligence and in order to determine the delinquency and control the use of artificial intelligence, electronic records must be taken into account. In this regard, it is proposed to register smart robots and maintain registers of robots and their owners.

According to P.M. Morhat , it is justified to single out the following basic models for determining responsibility for the actions of an artificial intel-

ligence unit that entailed the onset of harmful consequences (including in the field of intellectual property law): - a model of a real actor's tool , in which an artificial intelligence unit is presumed to be fundamentally innocent ("innocent") agent, instrument of the actual perpetrator of the offense; - a model of natural probable consequences, within the framework of which it is presumed that the artificial intelligence unit implements actions that are a natural, logically logical and probable consequence (derivative) of its production / programming, and the person who created and / or programmed the machine is presumed to show criminal negligence; - a model of direct responsibility of the artificial intelligence unit directly for its actions (or inaction); - a model of quasi-substitutional responsibility (responsibility for the negligence of others) of the owner and / or operator of the artificial intelligence unit for the inability to properly interpret the intentions and actions of this unit and to prevent these actions [5].

We believe that it is necessary to take into account the positive experience of the EU countries. In the Resolutions of the European Parliament recommendations were developed on the development of civil legislation in the field of responsibility of artificial intelligence. Whatever legal decision is envisaged in relation to the civil liability of robots and AI, regulatory legal acts that will be developed in the future should in no case: firstly, limit the types and extent of damage that can be compensated (at least if we are not talking about harming only property); secondly, to limit the forms of compensation that can be received by the injured party only on the grounds that the damage was not caused by a person.

Future regulatory legal acts should be developed based on an in-depth analysis conducted by the Commission in order to establish which of the approaches to liability should be applied: based on the principle of objective responsibility or the principle of risk management.

It is necessary to develop a system of compulsory insurance, according to which the manufacturer may be required to insure autonomous robots manufactured by him. In addition to the insurance system, it is necessary to create a reserve fund of funds. Funds from this fund will compensate for damage that is not covered by the insurance amount.

Any decision regarding the responsibility problem with robotics and artificial intelligence should be made based on global research and existing developments in the field of robotics and neuroscience. At the same time, scientists and experts should be able to pre-evaluate all the risks and consequences of the decision." [4]

In the existing system of law, there is no place for the legal personality of artificial intelligence. In order to prove this, British scientists and lawyers

applied to the patent offices of three countries on behalf of artificial intelligence [7].

Complexity arises already in the first stage since artificial intelligence cannot be indicated as an applicant and an inventor.

The main relevant concepts for resolving the issue of the holder of rights to the results of intellectual activity produced with the actual or legally significant participation of an artificial intelligence unit or produced completely autonomously directly by the artificial intelligence unit itself:

- as a full author of the results of intellectual activity created by him;
- as a co-author of a person in creating the results of intellectual activity);
- as an employee, creating the results of intellectual activity, presumptive and positioned as an official work;
- as a tool with which works are created;
- one approach denies authorship [5, p. 33]

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**IMPROVING APPROACHES TO THE EXEQUATUR OF FOREIGN  
COURT DECISIONS UNDER BANKRUPTCY CASES IN RUSSIA.  
BARRIER OVERCOMING METHODS**

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**Abstract.** In the article, the authors analyze the practical aspects of recognition and enforcement of foreign judgments under bankruptcy cases in Russia. The paper provides the overview of the existing approaches in determining the content of the principle of reciprocity applied in the framework of the exequatur of foreign judicial decisions and denotes the peculiar features of its application by Russian courts. Within the framework of the present study, possible ways for application are suggested in order to eliminate barriers to the recognition and enforcement of foreign judgments under bankruptcy cases

**Keywords:** bankruptcy, cross-border insolvency, recognition and enforcement of foreign judgments.

In the Russian law enforcement environment the issue of recognition and enforcement of foreign judgments under bankruptcy cases is of extreme importance. According to the Federal law "On insolvency (bankruptcy)" (hereinafter - the bankruptcy Law), article 1, clause 6, par. 1, there is a common rule, according to which the recognition of decisions of foreign courts on cases on insolvency (bankruptcy) in Russia requires the availability of an international treaty defining the possibility of such recognition<sup>1</sup>. In addition to multilateral international treaties<sup>2</sup>, such relations are usually

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<sup>1</sup>The first point of Article 1 (6) of the Federal Law of 26.10.2002 N 127-FZ (as amended on 03.07.2016) "On Insolvency (bankruptcy)" (with amendments and additions, effective from 21.12.2016). // SPS Consultant Plus.

<sup>2</sup>Convention on Legal Assistance and Legal Relations in Civil, Family and Criminal Matters dated on January 22, 1993; Agreement on the Procedure for Resolving Disputes Related

regulated by bilateral legal assistance agreements. However, it should be noted that today Russia does not have such agreements with all states. Moreover, not all of them are applicable for determining the possibility of recognition and enforcement of foreign judgments under bankruptcy cases<sup>3</sup>.

The strong disputes are being conducted regarding the analysis of paragraph 2, clause 6, article 1 of the Bankruptcy Law, which states that “in the absence of international treaties of the Russian Federation, decisions of foreign courts under cases of insolvency (bankruptcy) are recognized on the basis of reciprocity on the territory of the Russian Federation, unless otherwise provided by the federal law.”

Reciprocity as a generally recognized principle of international law traditionally implies mutual respect by the courts of different states for the results of each other's activities (as defined by the Russian Federation 07.12.2009 No. SAC- 13688/09). At the same time, reciprocity can be considered in two aspects: as simply fixing the possibility of recognizing a foreign court's decision in national legislation, and the practical implementation of this principle through the issuance of positive decisions by national courts in the framework of proceedings under such cases. In addition, the analysis of scientific reasoning and judicial practice makes it possible to formulate two concepts regarding the understanding of this principle. The first one establishes the presumption of reciprocity, and the second one determines the need to prove compliance with reciprocity by the interested party under the case (according to the legal literature, this approach is called reciprocity in the narrow sense or negative reciprocity<sup>4</sup>).

The second approach was initially warmly accepted by the courts. Thus, in one of its decisions, the Federal Arbitration Court of the North-Western "District" noted the following: "Meanwhile, it is not possible to establish from the materials of the case whether the decisions of the Russian state courts are enforced in France... The Ministry (applicant) did not provide such information"<sup>5</sup>. The development of this idea was reflected in another decision of the same court dated on 14.11.2016, according to which the

to Economic Activities, dated on March 20, 1992.

<sup>3</sup>In particular, the Agreement between the USSR and the Kingdom of Spain on legal assistance in civil cases of 26.10.1990 in paragraph 1 of Part 3 of Article 17 stipulates that the provisions of Chapter IV (Recognition and enforcement of court decisions) do not apply to decisions on bankruptcy and similar cases.

<sup>4</sup>Litvinsky D. V. The issues of recognition and execution of judicial decisions of foreign states (on the basis of the analysis of the law of France and Russia): dis. . I.s.cand., Spb., 2003.

<sup>5</sup>Decision of the Federal Arbitration Court of the North-Western District dated on June 23, 2014 under case No. A21-9806/2013.

judges make a reservation that it is necessary not just to prove the fact of recognition of the decisions of the Russian court abroad, but also to establish that reciprocity is observed between states in the form of recognition and enforcement of court decisions within a specific category of disputes. The reasoning part states that "the provision of assistance by the English court to the DIA as an arbitration administrator appointed by the Russian court is not equivalent to the recognition of a judicial act of the Russian court in respect of a UK citizen (subject), a permanent resident in the United Kingdom..."<sup>6</sup>.

Upon applying this approach, many difficulties arise, if only because a number of objective questions inevitably arise: How many' positive decisions of a foreign court must be (and for what period of time) to prove the existence of reciprocity, or is it enough just one such judicial act?

In this regard, it is important to emphasize that for some states, reciprocity is determined by established judicial practice. Thus, Moscow Arbitration Court issued a decision<sup>7</sup> on the recognition of the Order of the High Court of Justice of England and Wales on the grounds that the existence of reciprocity between Russia and Great Britain was established by Russian courts, in particular, under the cases of "Boegli - Gravur S.A." (the Decision by the FAC dated on 26.07.2012, No.VAS 80/12 65, the Resolution by Moscow district FAS dated on 19.04.2012 under case № A40- 119397/11-63-950) and NK YKOS (the Regulation by Moscow district FAS dated on 02.03.2006, 22.02.2006 No.KG-A40/698-06-P under case No.A40-53 839/05-8-3 88). The correctness of the above practice is confirmed by judicial acts of the Supreme Court of the Russian Federation on the enforcement of decisions of English courts on the territory of Russia (Decisions No.305-ES14-3869 on 29.10.2014, No.309-ES14- 69 on 18.08.2014). Moreover, in 2014, English courts recognized and enforced Russian judgments in the cases "VTB Bank OJSC versus Skurikhin" and "Alfa-Bank OJSC versus Trefilov".

At the same time, it is worth emphasizing that such "abundant" judicial practice exists in relation to not all States.

It is noteworthy that some courts generally ignored the possibility of applying paragraph 2, clause 6, Article 1 of the Bankruptcy Law. The Arbitration Court of St. Petersburg and Leningrad district based its refusal to recognize and enforce the decision of the first instance court of Frankfurt-am-Main in the bankruptcy case on the absence of an international agreement

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<sup>6</sup>Resolution by the Federal Arbitration Court of the North-Western District dated on 14.11.2016 under case No.A56-27115/2016.

<sup>7</sup>Decision by the Arbitration Court of the City of St. Petersburg and the Leningrad Region on 07.05.2015 under case No.A40-34719/14.

between Russia and Germany, without analyzing the issue of reciprocity<sup>8</sup>.

T. M. Yablochkov argued about the problem of reciprocity at the time, making the conclusion regarding the following: "If, for example, Russian authorities were allowed to enforce the decision of the French courts in Russia and the French authorities would not allow the execution of decisions of Russian courts, the Russian authorities would still be the loser: it would have served to foreigners without reciprocity<sup>9</sup>."

The fact that some courts are gradually moving away from conservative views, leaning towards the first approach mentioned above, nearly, the idea of the existence of presumptions of reciprocity is of particular interest is. For example, the Commercial Court of the City of Moscow, in a decision dated on 24.06.2014, satisfied the applicant's claim for recognition of the decision of the Commercial Division of the High Court of Justice of the British Virgin Islands on 18.03.13, arguing that there are no grounds for refusal in the case.

In the context of close globalization, the application of a different, third, concept seems to be the most optimal. The research in this area has shown that in order to resolve uncertainty, courts need to determine the presence or absence of reciprocity themselves, "according to their position"<sup>10</sup>. At the same time, we believe that even numerous refusals by the courts of a foreign state to recognize Russian judicial decisions should not serve as a basis for non-recognition of a foreign court's decision in the Russian Federation. In terms of determining whether foreign courts of a particular state issue acts on the recognition of Russian judicial decisions or not.

Based on the decisions of the European Court of Human Rights on the interpretation and application of the Convention for the Protection of Human Rights and Fundamental Freedoms of 1950, and, in particular, article 6, the right to judicial protection is considered as covering all stages of judicial proceedings and includes the stage of enforcement of judicial decisions, including decisions rendered abroad<sup>11</sup>. This implies that no one can be deprived of the right to a fair trial in a court of law on the recognition and enforcement of a foreign judgment simply by reference to the lack of reciprocity between the states in the area above.

A possible way out of this situation can be the following practical meth-

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<sup>8</sup>Decision by the Arbitration Court of the City of St. Petersburg and the Leningrad Region on 08.11.2007 under case No.A56-2266/2007.

<sup>9</sup>Yablochkov T.M. The course of international civil procedural law. Yaroslavl, 1909.

<sup>10</sup>In terms of determining whether foreign courts of a particular state issue acts on the recognition of Russian judicial decisions or not.

<sup>11</sup>Resolution of the Moscow Arbitration Court of 17.11.2011 in case No. A40-9769/10-123-162B.

od. According to the proposed concept, the Russian court considering the case under this category, upon detection of increase<sup>12</sup> in failures in the recognition of the Russian court decisions in a particular state provides materials about the failure of a foreign court in the Supreme court, collected as part of the case. Further, the Supreme Court of the Russian Federation in the course of cooperation with the highest court of a foreign state, considering bankruptcy cases, establishes the reasons for such refusals and takes measures to reach agreement on the issue of reciprocity. A decision on the absence of reciprocity on the issue of recognition and enforcement of decisions of a particular foreign state may be chosen as an extreme measure.

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<sup>12</sup>It is necessary to determine the number of failures per year, at which it is possible to talk about frequency.

## TERMINAL AND INSTRUMENTAL VALUES OF ORPHANS

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**Abstract.** Empirical data were obtained on the values-goals and values-instruments of orphans. Preferred, indifferent, rejected values are revealed. A mismatch between life goals and the choice of means to achieve them was observed.

**Keywords:** orphans, terminal values, instrumental values.

An empirical study was carried out with an experimental group, which included inmates of orphanages, centers for social assistance to families and children, an educational colony for minors in the Krasnoyarsk Krai (118 people). The object of the research was the values of orphans, in which we were interested in the subject area, covering the ideas and concepts of orphans about the meaning of values, the personal significance of values for determining life goals. The study was carried out using the method of associations and the method of M. Rokich "Terminal and instrumental values" [1]. M. Rokich defined terminal values as life goals that are significant for a person, such as an active productive life, life wisdom, health, interesting work, the beauty of nature and art, love, a materially secured life, the presence of good and faithful friends, social recognition, knowledge, productive life, development, freedom, happy family life, happiness of others, creativity, self-confidence, pleasure. Instrumental values reflect the course of action that a person chooses to achieve life goals. The list of instrumental values includes accuracy, good manners, high demands, cheerfulness, diligence, independence, intransigence, education, responsibility, rationalism, self-control, courage in defending one's opinion, sensitivity, tolerance,

open-mindedness, strong will, honesty, and efficiency in business.

In the course of the study, the hypothesis was tested that the orphans have sufficiently formed ideas and concepts about the values of the family and education, and the orphans are guided by these values when setting life goals. The hypothesis was tested in two stages.

At the first stage of the study, orphans in the experimental group were presented with lists of terminal instrumental values and were asked to write words for each value with which it is associated in their minds. Here are examples of associations generated by the values of family and education. The terminal value "active productive life" evoked both positive and negative associations in children. Positive associated with an *interesting life, life to a ripe old age, doing an important job, success in sports, recognition of merits*. A person living an active productive life, according to some children of the experimental group, *is needed by everyone; works hard; benefits people around*. For others, *always busy; looking for problems; works for a penny, works not for the state, but for himself*. The value of "productive life" among orphans caused such associations as *"make a career", "become a leader", "take a position", "work for pleasure."* Associations with the value of "happy family life" were such as *"parents and children love each other", "no one offends anyone in the family", "everyone goes on vacation together."* The "poorest" associative series were built around the values "development", "public recognition", "wisdom of life", "beauty of nature and art." For about every fourth pupil of the experimental group, these words did not evoke any associations; for the rest, "development" was mainly associated with reading books and playing sports; public recognition - with respect by other people, wisdom - wisely (*to act wisely*); the beauty of nature and art evoked images of only nature (*"mountains in Khakassia", "sea", "forest in winter"*).

Of the proposed instrumental values, the largest number of associations was evoked by the intuitive "accuracy", "good manners", "cheerfulness", "honesty". Less "rich" in associations were "high demands" associated by children only with a salary, an apartment, a car, or a summer residence. Such value as "open-mindedness" was associated with *"great knowledge"*, and "efficiency in business" - *with a great career*. Thus, the analysis of associative connections with the studied values basically confirmed the first part of the hypothesis that orphans have sufficiently formed ideas and concepts about the values of the family and education.

To study the personal significance of terminal and instrumental values, the children of the experimental group were asked to assign a rank number to each value in ascending order. The first rank received the most signifi-

cant value, the eighteenth (last) rank - the least significant. The empirical data obtained were grouped into three blocks: preferred (values that received ranks from 1 to 6), indifferent (ranks from 7 to 12), rejected (ranks from 13 to 18).

As can be seen from the data in table 1, the most significant terminal values for orphans are health, love, materially secure life, happy family life, having good and faithful friends, and pleasure. These values were given the highest ranks from 65% to 96% of those surveyed. The financially secure life is the "leader" in the group of preferred terminal values, it was chosen by 112 people out of 118.

**Table 1**  
**Terminal values of orphans (118 people)**

<b>Ranks</b>	<b>Values</b>	<b>People / %</b>
Preferred (ranks 1-6)	Health	96 people / 81%
	Love	people 69/ %
	Happy family life	83 people / 70 %
	Financially secure life	112 people / 95%
	Having good and loyal friends	77 people 65/ %
	Pleasures (pleasant, easy pastime, lack of responsibilities, entertainment)	109 people / 92 %
Indifferent (ranks 7-12)	Happiness of others (well-being, development and improvement of other people, the whole nation, humanity as a whole)	69 people / 58%
	Freedom (self-sufficiency, independence in judgments and actions)	83 people / 70 %
	Self-confidence (inner harmony, freedom from internal contradictions, doubts)	88 people / 75 %
	Development (work on oneself, constant physical and spiritual improvement)	69 people / 58 %
	Cognition (the ability to expand your education, horizons, general culture, intellectual development)	91 people / 77%
	Interesting job	85 people / 72 %
Rejected (ranks 13-18)	Active productive life (fullness and emotional richness of life)	69 people / 58%
	Life wisdom (maturity of judgment and common sense, achieved through life experience)	72 people / 61%
	Public recognition (respect for others, team, colleagues)	70 people / 59%

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	A productive life (the fullest use of your capabilities, strengths and abilities)	81 people / 69%
	The beauty of nature and art (the experience of beauty in nature and in art)	53 people / 45%
	Creativity (the ability to engage in creativity)	66 people / 56 %

Low ranks (from 13 to 18) received such values as active productive life, life wisdom, social recognition, productive life, beauty of nature and art, creativity. The lowest rank was noted for the value "productive life" (81 people / 69%).

Orphans assigned the middle ranks (7-12) to the happiness of others, freedom, self-confidence, development, knowledge, and interesting work. In this group of values, which occupy an intermediate position between preferred and rejected, the greatest number of choices were received by the value of "cognition", it was chosen by 91 people out of 118.

The data of the rating assessment of instrumental values are shown in table 2. As can be seen from the data in table 2, the most significant values that can be used to achieve life goals for orphans are accuracy, good manners, independence, courage in defending their opinion, strong will and cheerfulness. These values were given the highest ranks from 50% to 86% of those surveyed. Joy is the "leader" in the group of preferred instrumental values, it was noted by 101 people out of 118.

**Table 2**  
**Instrumental values of orphans (118 people)**

<b>Ranks</b>	<b>Values</b>	<b>People / %</b>
Preferred (ranks 1-6)	Accuracy (cleanliness, ability to keep things in order, clarity in doing business)	83 people / 70%
	Good manners (manners, the ability to behave in accordance with the norms of the culture of behavior)	59 people / 50%
	Independence (ability to act independently, decisively)	88 people / 75%
	Strong will (the ability to insist on one's own, not to retreat in front of difficulties)	72 people / 61%
	Courage in defending your opinion	77 people 65/ %
	Cheerfulness (optimism, sense of humor)	101 people / 86 %

Indifferent (ranks 7-12)	High demands (high demands on life and high aspirations)	49 people / 42%
	Diligence (discipline)	83 people / 70 %
	Education (breadth of knowledge, high cultural level)	86 people / 73 %
	Responsibility (sense of duty, the ability to keep your word)	59 people / 50 %
	Self-control (restraint, self-discipline)	94 people / 80%
	Honesty (truthfulness, sincerity)	49 people / 42 %
Rejected (ranks 13-18)	Efficiency in business (hard work, productivity at work)	81 people / 69%
	The breadth of views (the ability to understand someone else's point of view, respect other tastes, customs, habits)	72 people / 61%
	Tolerance (to the views and opinions of others, the ability to forgive others for their mistakes and delusions)	53 people / 45%
	Sensitivity (caring)	81 people / 69%
	Rationalism (the ability to think soundly and logically, make deliberate, rational decisions)	73 people / 62%
	Intransigence to shortcomings in yourself and others	54 people / 46 %

Low ranks (from 13 to 18) were received by efficiency in business, open-mindedness, tolerance for the opinions of others, sensitivity, rationalism, intransigence to shortcomings in themselves and others. The lowest ranks were noted for the values "efficiency in business" and "sensitivity" (81 people / 69%).

Orphans assigned middle ranks (7-12) to such values-tools as high demands, diligence, education, responsibility, self-control, honesty. In this group of values, which occupy an intermediate position between preferred and rejected values, the value of "self-control" received the largest number of choices; 94 people out of 118 chose it.

The above analysis of empirical data on the values of orphans makes it possible to clarify the hypothesis put forward and draw the following conclusions.

The hypothesis of the study was partially confirmed, since orphans sufficiently understand the meanings of values related to family and education. The study recorded the value attitude of orphans to a happy family life, which was chosen by the majority of children as preferred. The refinement of the hypothesis concerns the values of education, which, according

to the data obtained, occupy an intermediate position between preferred and rejected. In addition, it was found that values that cause a small number of associations in orphans (breadth of views, efficiency in business, development, public recognition, wisdom of life, beauty of nature and art) did not receive high points in the rating assessment and cannot be attributed to preferred. Another refinement of the hypothesis put forward was the mismatch between terminal and instrumental values. So, for example, with a high personal significance of the values of love and a happy family life, which orphans noted as preferred, there was a low personal significance of the tools for achieving it - sensitivity and tolerance; and orphans do not associate the achievement of a high level of material security with education and efficiency in business.

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## FORMATION OF ETHNOCULTURAL CONSCIOUSNESS OF YOUTH IN ST. PETERSBURG

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**Abstract.** The article analyzes psychological and pedagogical research in the field of the formation of ethnic and cultural consciousness of young people as a means of preventing interethnic conflicts. The results of the study of the ethnocultural consciousness of youth in the modern socio-cultural conditions of St. Petersburg are presented. A project has been developed for the formation of ethnic and cultural consciousness of young people as a means of preventing interethnic conflicts on the basis of the Center for the Study of Korean Culture "Mir" in St. Petersburg.

**Keywords:** ethnocultural consciousness, ethnocultural consciousness of youth, formation of ethnocultural consciousness, prevention of interethnic conflicts, youth of St. Petersburg.

The emergence of fundamentally new communication systems, the expansion of the active media space, the natural growth of "communicative needs" are indicators of the complication of most systems of social interaction in modern Russian society. The involvement of all strata of society in a single world information space leads to the emergence of new - global problems in various fields (communication, economically, interethnic relations, etc.). The level of communicative competence becomes, in this context, an important factor in successful interpersonal interaction in various activities. Consequently, the very formation of a person's communicative culture can be considered as one of the priority areas of modern science.

The development of personality culture in the national aspect was actively developed in the pedagogical works of H.H. Blonsky, I.A. Ilyina, P.F. Kaptereva, N.I. Pirogov, V.V. Rozanova, JI.H. Tolstoy, K. D. Ushinsky, S.T. Shatskiy and others. Domestic teachers considered the problem of the spiritual development of the individual in connection with the ideas of free national education and the formation of a creative personality, through the development of universal human ideals and values. In

their works, they paid great attention to fostering a culture of interethnic communication among students, as well as ethnocultural education of the future teachers themselves. For example, K.D. Ushinsky, in the course of many years of research on the problem, identified and scientifically substantiated the pedagogical conditions for the effective training of students and the education of humane behavior in the field of interethnic relations. [5] Kapterev P.F. in his work "The Essence of the Pedagogical Process" also drew particular attention to the need to form interethnic competence among students of the pedagogical direction for further teaching children interethnic dialogue. At the same time, multicultural education contributes to ethnic identification and the formation of national self-awareness of students. Based on the works of outstanding teachers, we can conclude that ethno-cultural education has the greatest educational potential, which is due to the development of such qualities as: tolerance, patriotism, interest in other countries and their cultures, as well as the development of a culture of interethnic communication. National identity includes awareness of the identity of the cultures of different peoples, respect for national values, characteristics and awareness of the importance of preserving the cultures of the world as a whole. [3]

The study of the problem of ethnocultural self-awareness is based on the fundamental works of Russian psychologists: L.S. Vygotsky, A.N. Leontiev, A.R. Luria, S.L. Rubinstein, D.B. Elkonina et al. Linguoculturologist N.F. Alefirenko defines ethnocultural consciousness as the highest spiritual category, an associative-semantic form of reflection of the value-cognitive space of one or another ethnocultural community. [1]. The following structural components of ethnocultural consciousness are highlighted: cognitive (concepts, ideas); non-cognitive (feelings, emotions, will, etc.); elements of culture (values, assessments, semantic interpretations, etc.).

The theoretical works of the following authors are of particular importance in the study of socio-cultural activity, its influence on the ethnocultural consciousness of youth: M.A. Ariarsky, G.M. Birzhenyuk, A.D. Zharkov, A.C. Zapesotsky, S.N. Ikonnikova, Yu.D. Krasilnikov, A.B. Sokolov, Yu.A. Streltsov, V.V. Tuev, H.H. Yaroshenko and others. Ariarskiy M.A. emphasizes that the national culture, which is the result of the intellectual creative activity of the people, creates an original environment for the formation of the younger generation's readiness for intercultural dialogue, acceptance of universal human values. [2].

E.V. Klimenko characterizes interethnic tolerance as a resource of social communication in a multicultural society. To build effective social communication, it is necessary to create an integral communicative space that

contributes to the formation of interethnic tolerance and the realization of its communicative potential.

Research in the field of national mentality and character was carried out by such scientists as T.I. Baklanova, T.G. Bortnikova, E.I. Grigorieva, M.I. Dolzhenkova, L.S. Zharov, E.V. Litovkin, E.Yu. Streltsova, A.A. Sukalo, V. Ya. Surtaeva, B.A. Titov, V.M. Chizhikov and others. They call for the purposeful formation of the national identity of the growing citizen, respect for the national characteristics and traditions of other people in order to prevent interethnic conflicts between people of a more mature age. [4]

T.G. Bortnikova identifies the following principles of national character, which affect the behavioral styles and ethnocultural consciousness of each individual person: the character of an ethnos is a fixation of certain typical features inherent, in one way or another, to the overwhelming number of individuals; the nature of an ethnic group is determined by the severity of national traits and the specifics of their manifestation; understanding of the character traits of an ethnos occurs only when they are correlated with the general value system, which depends on geographic and socio-economic conditions, folk way of life, and religious beliefs. Researchers emphasize the importance of effective work with the socio-cultural consciousness of the younger generation, as well as the need to use a whole range of measures aimed at the national identity of a young person, the development of ethno-national traditions. [6].

Thus, the analysis of psychological and pedagogical research has shown the need to search for ways to form the ethnocultural consciousness of young people, effective means of involvement in multicultural communication.

A study was carried out aimed at identifying the level of ethnocultural consciousness of young people in modern socio-cultural conditions. The research took place on the basis of the Center for the Study of Korean Culture "Mir" (St. Petersburg). The study involved 100 members of the center, aged 18 to 25 years.

To identify the level of formation of indicators of the development of ethnocultural consciousness of young people, the following methods were used: the scale of tolerance to uncertainty (S. Badner), the scale of the need to seek sensations (M. Zuckerman), the method "Stereotypes of qualities". The general level of development of the ethno-cultural consciousness of young people was identified using the test "Stereotypes of qualities". Analysis of the data showed that 17% of young people have a low level of development of ethnocultural consciousness. These young people are characterized by a high level of stereotyping and a tendency to

stigmatize, which is the same for representatives of their own ethnic group and for members of other "different" ethnic groups. Half of the respondents are characterized by an average level of development of ethno-cultural consciousness, which is characterized by a desire for contacts with people, the absence of a pronounced tendency to limit communicative interactions, but these indicators are not highly stable. The rest of the participants (33%) showed a high level of ethnocultural consciousness, which is characterized by initiative in communication, quick adaptation in a new environment, building strong communicative ties, a constant desire to expand the circle of their acquaintances, active participation in various events, and readiness to make an independent decision in a difficult situation.

The data were also analyzed using the Uncertainty Tolerance Scale (S. Badner) and the Needs Seeking Sensation Scale (M. Zuckerman). According to the data obtained during the testing process, half of the respondents had an average level of tolerance to uncertainty, which is characterized by the absence of serious difficulties in the perception of other cultures, certain difficulties can arise only when meeting a carrier that is very different from their own culture. A low level of tolerance was characteristic of only 8% of the respondents. As a rule, such people are conservative, they do not always hear and understand the interlocutor, they hardly perceive new things. A high level is characterized by an adequate perception of information, the absence of difficulties in the perception of other cultures (42%). The average level of need for new sensations is typical for the majority of respondents (67%). As a rule, such people are characterized by relaxedness and openness in communication, stable behavior in the process of communication, however, the level of need for new sensations is not dominant. Only 8% of the subjects showed a low level of development of the need for new sensations. These young people are characterized by poise, a tendency towards stability and the need to preserve it. Some 25% of young people have a high level of need for new sensations, they are open to new knowledge, are interested in expanding their acquaintance with new people.

The analysis of the data obtained showed the predominance of the average level of formation of the ethnocultural consciousness of youth, characterized by the general openness of youth to acquaintance and knowledge of other cultures, even in the absence of clear ideas about them. However, taking into account that the study was carried out on the basis of the Center for the Study of Korean Culture "Mir", the main audience of which is young people with a strong interest in studying another culture, actively involved in various activities to study Korean culture through

various forms of work, the data obtained in the study indicate the need for further systematic work on the basis of this center on the formation of the ethnocultural creation of youth.

Based on the results obtained, a project was developed for the formation of ethnic and cultural consciousness of youth as a means of preventing interethnic conflicts. The objectives of the project were: formation of a tolerant attitude of young people to representatives of other cultures; promoting the development of skills for successful interaction with representatives of different cultures; awareness of the causes and consequences of misunderstanding arising from human interaction with representatives of other cultures, as well as the consequences of manifestation of intolerance between peoples and cultures.

The project of forming the ethno-cultural consciousness of youth consists of three modules, each of which contains training and game exercises, lectures, etc. The first module "Acquaintance" includes a series of training games and exercises (games "Karambia", "Unknown Worlds"; exercises "How are we alike", "Pantomime of tolerance", "General rhythm", "Recall everything" and others). In this module, young people are introduced to the dangers of manifestations of intolerance between peoples and cultures; are aware of the diversity of cultures, the causes and consequences of misunderstanding of representatives of other cultures; develop social perception, skills of successful interaction with representatives of another culture. The second module "Lecture" includes a series of activities aimed at developing interest in other cultures. The project included classes aimed at acquaintance with the culture of South Korea: "Lectures on the history of South Korea", "History of the language", "History of the decline and rise of the country", "Lecture on the development of modern Korea". When carrying out this module on the basis of another cultural center, the culture of another people or country can be studied. The third module "Work Shop" includes a number of joint activities in an interethnic youth environment: traditional Korean games (Yut, Takchi, Bag running, Arrow throwing, Cock-fighting, and others), a calligraphy master class, etc. The implementation of this project will make it possible to successfully contribute to the formation of the ethnocultural consciousness of young people, their tolerant attitude of young people to representatives of other cultures in the modern metropolis of St. Petersburg.

Thus, the analysis of modern scientific literature has shown the urgency of the problem of forming the ethnocultural consciousness of youth, the need to search for effective means of its formation. The results of the study determined the need for further study of the ethnocultural consciousness of

modern youth, identifying the specifics of its formation in its various groups (students, working youth, etc.), as well as a propaedeutic orientation in the field of interethnic conflicts. The developed project can become an effective means of developing the ethno-cultural consciousness of young people for the prevention of interethnic conflicts in a modern metropolis. It is the formation of the ethnocultural consciousness of modern youth that will save the world community from negative sociocultural phenomena in the future: socio-cultural conflicts, extremist activities, segregation and discriminatory processes, etc.

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## FORMATION OF COGNITIVE COMPETENCE OF YOUNGER STUDENTS IN THE EDUCATIONAL PROCESS

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**Abstract.** The article deals with the problem of the formation of the cognitive competence of junior schoolchildren in the educational process. The concept of cognitive competence is analyzed. Experimental and testing activities have been carried out to form the cognitive competence of primary school students.

**Keywords:** competence, educational and cognitive competence, project method, cognitive interest, motivation.

The cognitive (educational and cognitive) competence of a younger student is a set of competencies of a student in the sphere of his independent cognitive activity, which includes elements of logical, methodological, general educational activity of a student [2, p.155].

The sphere of cognitive competence of students of elementary grades includes methods of organizing educational and cognitive activities, especially its goal-setting, planning, analysis of the results of activities, reflection of its implementation by students, self-assessment. One of the features of cognitive competence is its creative nature, which involves the acquisition of knowledge directly from the surrounding reality, the subject's possession of methods for solving educational and cognitive problems, performing the necessary actions in non-standard situations [3, p.109].

The formation of the cognitive competence of primary school students is largely due to the use of ideas and principles of a personality-oriented

approach in the construction of the educational process, based on the provisions of a holistic approach to the development of a socially active personality, the formation of skills of independent, intellectual activity and the development of the basic elements of cognitive competence throughout the entire period of initial school education [1, p.34].

We have carried out experimental activities on the formation of the cognitive competence of primary school students carried out on the basis of the MBEI "Secondary General Education School", Elabuga, Republic of Tatarstan.

To study the level of formation of cognitive competence in primary school students at the ascertaining and control stages of experimental work, a comprehensive diagnostic technique "Learning to learn and to act" [4] for younger students, developed by the Center for psychological support of education, was used [5].

According to the results of observation, 38.5% of primary school students have a low level of development of cognitive competence. They have reduced skills in most of the indicators allocated for diagnostics. The average level of formation of cognitive competence has 42.3% of primary schoolchildren. The remaining 19.2% of primary school students are classified as having a high level of formation of cognitive competence

At the formative stage of the experimental work, work was carried out to form the cognitive competence of younger students in the educational process.

First of all, we created conditions aimed at supporting the cognitive motivation of primary school students through the use of positive incentives, namely, a position was adopted to celebrate their successes and a strict refusal to punish.

At the formative stage of the study, methods were actively used that reveal to younger students the positive aspects of the process of cognitive activity and soften the negative impressions of learning. For example, we used a variety of entertaining moments, a change in the activities of students in the classroom, the inclusion in their content of game moments that contribute to the formation of the necessary knowledge and skills in students in an accessible form. The use of such techniques made it possible to reduce the fatigue of younger schoolchildren, to increase interest in cognitive activity. By presenting students with independence in individual elements of the educational process, schoolchildren began to take a more responsible attitude towards the need for reflection.

Compliance with the following principles was also important at the formative stage of work:

1. An individual approach to teaching, which involves taking into account the individual characteristics of students when planning the study of sections and topics of academic disciplines.

For example, children who experienced significant difficulties in the process of mastering educational material (Anastasia M., Timur M., Luiza M., Dinar M., Diliya R., Daniyar S., Ruslan U., Amir Kh., Ilvina Kh., Radmir Ch.), thanks to the use of multilevel tasks, got the opportunity to feel their success in educational and cognitive activities, which, in turn, stimulated them for further development. In this regard, the success of Ernest, Radmir and Louise can be especially noted, who in a few weeks moved from solving cognitive tasks at the lowest level to the average level of difficulty. The rest of the children, seeing the successes of their classmates, also gradually began to strive to complete more difficult tasks.

2. Using a pedagogically sound communication style. In this regard, it was important for us that the teacher's oral speech was literate, enriched with non-verbal means of communicative interaction. The use of such means made it possible to effectively form among younger schoolchildren a positive attitude towards the process of learning, towards independent work.

Addressing students from a position of respect for their personal dignity has also proven to be effective. For example, when working with behaviorally "difficult" students, such as Daniyar S., we used an address by name, showing interest in his opinion, even if it was erroneous, helping the child to independently realize the meaning of cognition in various aspects of their life.

As a result of the use of such techniques, Daniyar became more interested in the possibilities of achieving high results in educational and cognitive activities, began to strive to improve his level. After almost every lesson, he began to approach the teacher, inquire about the reasons for receiving one grade or another, inquire about what needed to be done to get a higher grade. Moreover, what is important, such a desire was not limited only to questions: in the next lessons he tried to take into account the wishes expressed to him and, although he did not always succeed in getting higher scores, we can still say that David developed motivation at a higher level to gain new knowledge, to success in cognitive activity.

3. Use of educational and developmental opportunities for the content of academic subjects. For example, when teaching various disciplines, we took into account their specificity, which made it possible to take into account the possibilities of game methods in solving the problems of activating cognitive interest and developing creative abilities in classrooms;

implement active learning technologies that activate the cognitive interest of junior schoolchildren in the context of personal interaction between teachers and students; to use the active involvement of students in joint educational activities, where a game form of organizing cognitive activity could act as an attractive stimulus.

The use of such forms of organizing the work of primary schoolchildren, game techniques, active learning technologies significantly increased the desire of students to acquire new knowledge, made the process of mastering the main components of cognitive competence more attractive for them.

Students have repeatedly expressed their approval of the methods used. For example, Sultan A. said that he used to like going to school, but now his studies have become even more interesting. Louise M., who previously was reluctant to perform tasks and exercises, began to show higher activity in the lesson, which, in turn, contributed to the development of the main components of cognitive competence.

The use of gaming technologies, the expansion of options for using ICT in the educational process made it easier for schoolchildren to work with diagrams and tables, teach them to extract the necessary information from them, independently structure educational material using such methods of its presentation. As a result, for example, Ilvina H. became much more successful in extracting information presented in tables, diagrams, illustrations; Milyausha V. learned to highlight the most important things in what she read or listened to, to build the content of the information received in the correct logical sequence in the process of drawing up tables, diagrams, process models.

The plan for conducting the formative stage of the study can be presented in table 2.

**Table 2**  
**Plan for the formative stage of the study**

<b>Term</b>	<b>Purpose of the work</b>	<b>Content of the work</b>
January	Creation of conditions aimed at supporting the cognitive motivation of students	Focusing on successes, refusal from punishment; self-representation
January	Formation of a positive attitude to the process of cognition, to independent work	Achieving a pedagogically sound communication style
During the whole period	Implementation of an individual approach to training	Taking into account individual characteristics when planning the study of sections and topics

During the whole period	Implementation of educational and developmental opportunities for the content of academic subjects	Using game methods, active learning technologies, inclusion in joint educational activities
During the whole period	Increasing the effectiveness of cognitive activity, developing the ability to evaluate, comprehend the results of cognitive activity	Implementation of reflective learning technologies
February – April	Increasing the level of perception and memorization of educational material	Implementation of information technology
February –April	Attracting active attention to the material, including in the work of all students in the class	Implementation of problem search technologies
January, March, April	Formation of solid and conscious knowledge, skills and abilities	Using didactic games

In general, in the process of forming the cognitive competence of primary school students in the process of educational activity, we used the following techniques (table 3).

**Table 3**  
**Techniques used in the process of forming the cognitive competence of primary school students**

<b>Cognitive competence component</b>	<b>Techniques</b>
Cognitive	Reflection of cognitive activity, interruption and incompleteness of cognitive activity, granting the right to choose methods of work, practical orientation of cognition,
Activity-operational	The use of various forms of collective activity, an unusual form of presenting educational material, the creation of problem situations, cooperation between the teacher and students in the lesson, involvement in evaluative activities
Value-motivational	Creation of a situation of success, the formation of a positive emotional mood, entertaining cognitive activity, the use of special and "expanding" questions before and after the assignment

The use of such techniques made it possible to develop all components of cognitive competence in the educational process in younger students. Students began to feel more confident when working with various sources of information, to think about the goals of their cognitive activity, the need for its planning and preliminary determination of the means to achieve the goal. Younger schoolchildren improved their ability to use basic logical operations, extract information presented in various graphical forms.

In the process of teaching at the formative stage of the experimental work, the following pedagogical technologies were used:

1. Reflexive teaching technologies, the use of which allows the formation of a conscious direction of mental activity in primary school students, contribute to an increase in the effectiveness of cognitive activity based on the regulation of younger students' own actions, the ability to evaluate and comprehend the results of cognitive activity.

In particular, the following techniques of reflective technologies were used:

- "true-false" technique, used at the stage of consolidation of the passed material;

- "difficulty", "knowledge of ignorance" techniques, used in the study of material based on the questions: "who? what? when? where? if? why?";

- "hypothesis" technique, which helps schoolchildren to establish the general and essential properties of objects and phenomena;

- the method of "drawing up memos", the use of which teaches younger students to select the most important information, forms conciseness and clarity of formulations. The use of such techniques aroused high interest among students. All children, even those with a low level of academic performance, were active. For example, M. Dinar especially fell in love with the "true-false" technique; the boy always performed his homework with good grades. Dinar also showed a high level of activity in the process of lesson activity using this technique.

2. Information technologies, the use of which contributes to a better perception and memorization of the material by primary school students. Illustrative material with the use of ICT can be used in any lesson, which provides its advantage over other pedagogical technologies.

Due to the fact that modern schoolchildren are familiar with information and communication technologies from a very early age, the use of appropriate technologies in the classroom causes them a high level of interest. Children are happy to watch educational films, animations, are interested in slides of multimedia presentations, and prepare their own. Particularly interesting presentations are always obtained from Samira D. and Ramili

K., who, when preparing them, carry out significant work, considering the phenomena and objects under study from different points of view.

3. Problem-search technologies, which are a variant of problem learning technology. They include exploratory and investigative methods, in which primary school students independently search, creatively apply and obtain knowledge. The use of these technologies was especially effective in the formation of geometric representations in students, in the project activities of schoolchildren.

The project method is one of the most favorite among children of primary school age. Short-term and medium-term projects always attract their active attention, allow them to participate in the collective work of all students in the class. The most active during the implementation of projects were Diana N., Sultan A., Ramilya K., Semyon D., Dasha K.

4. Didactic game, thanks to the use of which the formation of more solid and conscious knowledge, abilities and skills is achieved in younger students. During the games "Labyrinth", "Who is faster", "Collect the numbers", "Lotto", "Collect mushrooms", "Help Dunno" and others, students are given the opportunity to quickly see the results of their cognitive activities, they develop a cognitive interest in the subject, the activity in the lesson increases, a positive attitude towards cognitive activity in general.

5. Visual teaching methods, the use of which contributes to the formation of computational skills in younger schoolchildren, skills in composing problems and expressions. In addition, these methods make the learning process aesthetically pleasing and interesting, even for low-performing students. For example, thanks to the use of visual methods, the activity in the learning process of Amir Kh., Radmir Ch. and other children has significantly increased.

Thus, the work carried out at the formative stage of the experimental work made it possible to achieve the formation of various components of the cognitive competence of primary school students, to increase motivation.

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**PATRIOTIC EDUCATION OF JUNIOR SCHOOLCHILDREN IN THE  
STUDY OF THE DISCIPLINE "THE WORLD AROUND"**

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**Abstract.** The article examines the problem of the formation of moral and patriotic ideals among primary school students on the examples of positive characters in the historical past of our country in the study of the discipline "The World Around". According to the author, the content of the course "The World Around" in elementary school allows the teacher to organize project activities for junior schoolchildren aimed at finding information about wonderful people - warriors, workers, writers, artists who lived or live in their native land.

**Keywords.** Patriotism, native land, junior schoolchild, heroism, courage, warrior, pride, homeland.

The peculiarities of studying the world around by primary school students determine the importance that the corresponding course has in the process of the patriotic education of younger students.

Indeed, today for teachers working with students of primary school age, the question of the selection of the content of knowledge that could contribute to the upbringing of love for the Motherland, patriotism in the broad sense of the term, is of particular importance for teachers.

At the same time, in modern psychological and pedagogical science, it is generally recognized that the patriotic feelings of a child arise from social experience embodied in the products of material and spiritual culture, which is formed in the process of mastering the world around - both in the

natural and in its social science aspect.

Indeed, the people of our country have a long, centuries-old history, rich nature, deep spiritual and cultural foundations, national values that retain their significance today [2, p. 4].

Therefore, their study of the world around them in all its diversity becomes a natural means of patriotic education of children of primary school age.

The study of the world around us contributes to the formation of moral and patriotic ideals of elementary school students on the examples of positive characters from the historical past of our country, thanks to whose images a living connection of the distant past with the present is established in the child's mind, a sense of pride for our Motherland, for its people is brought up.

The study of the world around creates conditions for instilling love for the Motherland, for their Fatherland in younger schoolchildren in the process of familiarizing themselves with the historical past of their families, with their native land, city or village - its historical and cultural heritage, nature.

The effectiveness of this kind of activity is based on familiarization with our historical past and present on the basis of vivid impressions, specific facts available to children of primary school age and causing them positive emotional experiences [6, p. 14].

The work on familiarizing junior schoolchildren with the natural and social reality contributes to the formation of:

- initial, differentiated ideas about patriotism as a phenomenon of public life and personal characteristics of a citizen of his country;
- expanding ideas about the small homeland and the country as a whole, acquaintance with the sights of your city and state;
- awakening interest in the historical past of their people [6, p. 114].

Patriotic education of children of primary school age in the process of studying the world around them involves:

- the implementation of interaction between adults and children in joint activities and communication, aimed at disclosing and forming in students the universal moral qualities of the individual;
- familiarization with the sources of national and regional culture, the nature of the native land;
- education of an emotionally effective attitude towards the surrounding reality as a whole;
- feelings of belonging, attachment to other people around him.

The main means for instilling patriotism in students in the process of

studying the world around them is the inclusion of younger students in various types of practical activities and the formation of their skills and habits, experience of behavior in accordance with the attitudes of patriotism as a personality trait [4, p. 8].

Civil-patriotic education in the process of studying the content of the course "The World Around" by younger students may include [1, p.23]:

- the formation of students' initial ideas about the Constitution of the Russian Federation, familiarization with the state symbols of Russia, the symbols of the region and the city in which the child lives (on posters, paintings, during conversations, reading books);

- acquainting junior schoolchildren with the heroic pages of the history of our country, the lives of wonderful people who have shown examples of civil service, the fulfillment of a patriotic duty, with the duties of a citizen (in the process of conversations, excursions, watching films, excursions to historical and memorable places);

- acquainting schoolchildren with the history and culture of their native land, folk art, ethnocultural traditions, folklore, the peculiarities of the life of the peoples of our country (in the process of conversations, role-playing games, watching films, creative competitions, festivals, holidays, excursions, travel);

- familiarizing primary school students with the most important events in the history of our country, the content and significance of public holidays (in the process of conversations, watching educational films, participating in the preparation and holding of events dedicated to public holidays in the lessons of the world around);

- familiarizing primary school students with the activities of public organizations of a patriotic and civic orientation, organizing the participation of schoolchildren in programs and projects aimed at fostering in children a respectful attitude towards the military past and present of our country, as well as in projects aimed at studying the history of their families in the context significant events in the history of a small homeland, country (in the process of the feasible participation of schoolchildren in project activities with an appropriate focus);

- getting younger students of the initial experience of intercultural communication with peers and adults - representatives of different peoples of Russia, familiarization with the peculiarities of their cultures and way of life.

Thus, we can say that the very content of knowledge acquired by primary school students on the subject "The World Around" directs teachers to conduct targeted activities for the patriotic education of students.

Ample opportunities for systematic patriotic education of children of

this age group are presented in all educational programs used in modern Russian schools, the content of which allows for consistency, progression, continuity in the process of patriotic education of children [7, p.43].

Starting from the first grade, in the lessons on the study of the world around the teacher, together with students of primary school age, questions and tasks for the study of the history of their hometown, region, state are considered.

Younger schoolchildren get acquainted with the state symbols of Russia, find out what they mean, where they came from.

Love for their country, for their people is impossible without love for their loved ones and relatives, therefore, the lessons of studying the world around them presuppose the creation of their family's pedigree, in the process of which they get acquainted with the history of their kind, family, traditions of previous generations [6, p. 88].

The content of the course "The World Around" in elementary school includes a rather extensive historical component, thanks to which primary school students get the opportunity to get acquainted with the history of their homeland, receiving basic, most important and vivid historical information about the past of our state.

The study of the historical component of the course "The World Around" has as a priority goal precisely the patriotic education of primary schoolchildren, since in the historical past of our country there are many heroic events that cause pride in belonging to it [6, p. 88].

An important component of the historical knowledge formed in younger schoolchildren in the course of studying the world around them, contributing to the patriotic education of the younger generation, is knowledge about the Great Patriotic War, the Victory Day, glorifying the heroism and courage of the soldiers of Russia, the power and glory of Russian weapons, which at all times were an integral part of the greatness of the Russian state.

Reading books, composing stories about relatives who participated in battles or worked in the rear during the Great Patriotic War, contributes to the development of patriotic feelings in children.

The basis of the front-line stories of domestic writers of the last century, acquaintance with which can occur in the process of studying the world around by younger schoolchildren, are based on real events that not only help to preserve the memory of the ancestors who defended the Fatherland, but remind of the moral duty - to love and protect their Motherland. In civilian lyrics, one can trace the bitterness of loss and the joy of Victory, historical names sound and the great battles of the Russian people are celebrated [3, p.45].

As part of this direction of work on the patriotic education of primary school students in the process of studying the world around them, it is possible to conduct events with the following themes: "They defended the Motherland", "Russia the brave sons", "Monuments and memorable places of our area" and others. It is possible to organize visits by younger schoolchildren to the local history museum, when studying the content of which younger students not only learn more about the nature of their area, but also receive information from the history of their native land, get acquainted with its sights, memorable places, main events and characters in the history of their native land [5, p.105].

The content of the course "The World Around" in elementary school allows the teacher to organize project activities for junior schoolchildren, aimed at finding information about wonderful people - warriors, workers, writers, artists who lived or live on the territory of their native land [5, p.106].

To achieve high results in the process of patriotic education of children of primary school age, the teacher must strive to develop high social motives and noble feelings of students:

- unity with their people, pride for them and their homeland;
- interest in its heroic history;
- love for native nature;
- desire to defend and protect it.

Each lesson of the world around provides ample opportunities for this, creating conditions for the manifestation of creativity, initiative, independence, and saturation of their life with positive emotions by younger students [8, p.100].

The study of the world around in the course of primary education opens up wide opportunities for the patriotic education of younger students. The world around, perceived by students in the process of studying the relevant subject, contributes to the development of a sense of pride in their country and its history, a sense of belonging to it, love for the country, small homeland and its nature, the desire to defend and protect it.

Thus, the study of the theoretical aspects of the patriotic education of primary schoolchildren in the process of studying the world around them allows us to draw the following conclusions:

1. The target guidelines of the educational impact on students of a modern primary school are determined by the Federal Law "On Education in the Russian Federation", the Federal State Educational Standard of Primary General Education (grades 1-4), the Approximate Basic Educational Program of Primary General Education, as well as the Concept spiritual and moral development and education of the personality of a citizen of Russia.

These documents attach particular importance to the issues of patriotic education, defining its goal, objectives, expected results, as well as the basic patriotic values formed in children.

2. The study of the world around at primary school age is carried out in three main areas - gaining knowledge about natural reality, mastering a set of ideas about the social sphere, as well as developing basic mathematical concepts. The content of the curriculum in the elementary school "The World Around" is aimed at their formation, the specificity of which is that it, having a pronounced integrative character, combines in equal measure natural history, geographic, social science, historical and other knowledge.

3. The study of the world around by younger students is a means of patriotic education.

It contributes to the formation of moral and patriotic ideals of elementary school students on the examples of positive characters from the historical past of our country, thanks to whose images a living connection of the distant past with the present is established in the child's mind, a sense of pride for our Motherland, for its people is brought up.

The study of the world around creates conditions for instilling in younger schoolchildren love for the Motherland, for their Fatherland in the process of acquainting themselves with the historical past of their families, a kindred land, city or village - its historical and cultural heritage, nature.

As a result of studying the world around, a graduate of an elementary school not only masters a certain set of knowledge and skills, but also masters the student's subject position, which is important for the formation of his spiritual and moral qualities in general and patriotism in particular.

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## METHODOLOGICAL APPROACHES IN STUDYING THE FEATURES OF ADOLESCENTS, DEVIANT BEHAVIOR

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**Abstract.** With the passage of time and the development of scientific and technological progress in Russian society, the rules of personality behavior also change, the problems of deviant personality behavior do not lose their relevance. Difficulties in adapting to the requirements of modern times in all spheres of life are first experienced by adolescents, since it is at this age that the psychological formation of the personality takes place. The teenager is greatly influenced by the environment and people. Deviant behavior has always been interesting for representatives of many sciences; many approaches have been proposed to solve this problem, which have not shown the desired result. In the history of pedagogy, a theory of upbringing adolescents in a team and a family was proposed, which showed the success of adolescent socialization.

**Keywords:** personality, teenager, deviant behavior, deviation, deviant behavior.

Today we are reaping the fruits of 30 years of socio-economic, political, ecological instability of society, the strengthening of pseudo-culture, changes in the content of value orientations of young people, dysfunctional family and domestic relations, leading to an epidemic of divorce, lack of control over behavior, excessive employment of parents, reforms that destroy system of secondary and higher education. And as a result, child neglect, crime, drug addiction is growing every year, there is a tendency to an increase in the number of deviant behavior. Theorists and practitioners in the field of working with adolescents have been trying for a long time to find answers to questions such as: What pushes a person to wrongful acts? How can you warn a teenager against this behavior?

Personality behavior that deviates from the generally accepted and widespread norms in society is commonly called deviant behavior in scien-

tific circles. The problem of deviant behavior in adolescents does not lose its relevance for many decades. This behavior has always aroused scientific interest among philosophers, sociologists, psychologists and educators. After reviewing and analyzing the scientific literature, it is safe to say that deviant behavior appeared at the time of the formation of society itself.

At the beginning of the XX century, the Italian physician C. Lombroso put forward a theory about the existence of a direct connection between deviant human behavior and his biological characteristics. His "criminal type" could be identified by such characteristic features as "protruding lower jaw, sparse beard and reduced sensitivity to pain." American psychologist and physician W.H. Sheldon, being a follower of C. Lombroso, focused his attention on the structural features of the body. According to the typology put forward by him, the following types of people were distinguished: 1) endomorph (usually a person of moderate corpulence with a soft and somewhat rounded body) - sociable, knows how to get along with people; 2) mesomorph (his body is distinguished by strength and harmony) - shows a tendency to anxiety, he is active and not too sensitive; 3) ectomorph (distinguished by the subtlety and fragility of the body) - is prone to introspection, endowed with increased sensitivity and nervousness. In the course of his research, W.H. Sheldon came to the conclusion about the greatest tendency of mesomorphs to deviant behavior.

Austrian psychoanalyst and psychiatrist Z. Freud proposed a psychological theory of deviant behavior. The basis of his theory is formed by three components of personality ("Id", "Ego", "Super-Ego"), which, if they act in a balanced way, then a person leads a normal life, does not show deviant behavior. If the components of "Ego" and "Super-Ego" are inadequately formed in the structure of the personality, then their inhibitions do not stop the manifestation of desires and instincts in a person, which leads to further deviant behavior.

For the first time, a sociological explanation for deviant behavior was given by the French sociologist E. Durkheim, who believed that the main reason for such behavior was anomie - which literally meant "abnormality", namely, a state of disorganization of society when values, norms, social ties are absent, weaken or contradict each other. All this disrupts the stability of society, disorganizes people, and as a result, various types of deviations appear [1]. Attention should be paid to the fact that E. Durkheim considered deviant behavior to be natural and argued that it carries both negative and positive principles.

They also tried to give a culturological explanation to deviant behavior of a person, according to which such behavior may arise as a result of a

conflict between cultural norms. Scientists argued that there are certain groups in society, the norms of life of which differ significantly from the norms of other groups in society. For example, a representative of a certain subculture lives according to norms that will significantly differ from the life foundations of wide sections of society.

Today, the concepts of "deviation" and "deviant behavior" can be characterized by versatility and originality. There are frequent cases of manifestation of deviant behavior among adolescents. Accordingly, the tendency to deviation is considered as a feature of the personality of a teenager who has difficulties in life.

Many psychologists and teachers in their writings revealed the problem of deviant behavior of adolescents. So, N.A. Zverev and N.V. Zhigina in her work "Deviant behavior of adolescents as a distortion of moral education" reveals a teenager with deviant behavior as an ordinary adolescent. In the course of the study, N.A. Zverev and N.V. Zhigina came to the conclusion that the social environment of a teenager has a direct impact on the formation of his life principles and immoral character traits [2].

Despite the study of the deviant behavior of adolescents by many scientists, deviant behavior, today, remains one of the urgent pedagogical problems. A significant contribution to the study of adolescents with deviant behavior and their social adaptation in society was made by A.S. Makarenko. His ideas were reflected in the works of many scientists, were practically implemented by many teachers around the world and remain relevant today.

Makarenko A.S. in the course of the research, he announced the main reason for the deviation. In his opinion, it is not only the environment that is to blame for the fact that children become criminals, but first of all, it is bad parents and bad teachers. Criminals can come from both poor and dysfunctional families, as well as from rich and fairly prosperous families. All his educational system, Makarenko A.S. built on the upbringing of adolescents in conditions of maximum humanity and democracy in the life of the collective of pupils. He built his teaching activity according to the principle: "As much as possible requirements for a person and as much respect for him as possible." Makarenko put respect, openness, sincerity, team and family at the heart of the upbringing of adolescents with deviant behavior.

According to Makarenko's upbringing methodology, the main condition for the upbringing of a personality is the upbringing collective, in which all its members are a single whole. Children in this team should be linked by friendly relations and business goals, which will serve as a favorable basis for the positive formation of the personality of a teenager [3]. The atmos-

phere in this team should be calm, without elements of tension. It is in such a team that a teenager will feel his need, security. In turn, the upbringing team should be in constant development, should set new goals for itself and gradually achieve them, and the teenager in the team should notice his contribution to achieving these goals.

Anton Semenovich Makarenko argued that the formation of an upbringing team is possible through his labor activity. In his opinion, the child must be busy throughout the day in order to achieve the goals set for him and a positive result. In the process of working with adolescents with deviant behavior, the teacher should see only the best and positive in the child. According to A.S. Makarenko, it is this approach to a teenager that contributes to the formation of positive personality traits in a child.

Today, the application of Makarenko's upbringing methodology is completely impossible, since the time has changed and the adolescents themselves have changed, but the thoughts expressed by A.S. Makarenko (humanism, work, collectivism, responsibility) will undoubtedly help the teacher in working with adolescents with deviant behavior.

After analyzing many scientific studies, we can conclude that the basis of the deviant behavior of adolescents is always pedagogical reasons [4]. These reasons include: a low level of culture of family relationships, gaps in parenting, neglect of the educational process, indifference to the interests of the child, lack of attention from teachers. In the course of the study, it can be concluded that adolescents with deviant behavior cannot be isolated from society, they need to create favorable conditions for the formation of positive personality traits, to help maintain the microclimate in the team for communication with peers who will have a positive impact on him.

An increase in the number of adolescents with deviant behavior objectively prevents an increase in the standard of living, social stabilization, and creates direct opportunities for strengthening deviant forms of behavior in adolescents. Such statistics threaten society with the replenishment of criminal structures. Thus, the deviation of adolescents is an urgent problem of modern Russian society, which can be influenced using the achievements of the great teacher A.S. Makarenko.

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**COLLECTIVE MEMORY ABOUT THE PAST IN THE ETHNIC  
SELF-CONSCIOUSNESS OF THE REGIONAL COMMUNITY  
REPRESENTATIVES**

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**Abstract.** The problem of interethnic accord is one of the most relevant problems in the modern Russian society. During the period of time since the middle of the 90s till the present a process of formation of regional communities had played a positive role in decreasing of the potential of interethnic tension. The reasons of solidarity between members of such community are the peculiarities of the individual biography of regional residents: their living experiences, love to their little homeland, similar knowledge in the search and acquiring of financial income, getting an education and prestigious jobs.

Regional communities vary in ethnic composition of their member population. Taking into account the fact of polyethnicity of regional communities is necessary for all subjects of the Russian Federation. It has the special meaning for the analysis of state of affairs in national-territorial subjects (republics and autonomous okrugs), as the fact of presence of title nations influences significantly on the regional processes going. In such kinds of regions processes of formation of collective memory and its reflection in ethnic self-consciousness of different ethnic groups have their own peculiarities. In what degree does the memory about the past of the Russian population in the national republics in Russia perceive history of the national regions as its “own” history? Does the historical memory of the title nations contain any individual or event remembrance figures, which are also important for the Russians? This paper is devoted to the analyses of common and concrete questions of this problem (by the example of the young people in the Altai Republic).

**Keywords:** regional communities, collective memory, ethnic diversity, modern Russian society.

The problem of interethnic accord is one of the most relevant problems in the modern Russian society. During the period of time since the middle of the 90s till the beginning of the 2000s, when this problem was the most sharp, a process of formation of regional communities had played a positive role in decreasing of the potential of interethnic tension in different districts of the country. By the regional community we understand a historical and cultural commonality, which exists in the area, that is outlined by the naturally-geographical, political or state boundaries, and identifies itself as a community on the basis of dwelling on that definite territory. The reasons of solidarity between members of such community are the peculiarities of the individual biography of regional residents: their living experiences, love to their little homeland, similar knowledge in the search and acquiring of financial income, getting an education and prestigious jobs. Special living conditions form the experience, which is common for all members at the level of everyday reality.

Formation of the regional community happens by means of formation of the regional identity. One of the leading specialists in this sphere M. Krylov understands under the regional identity an aggregate of cultural relations, which are connected with the ideas about the little homeland. He supposes that area and “power” of identity unite in the regional identity and that is why a term “local patriotism” is acceptable. Considering patriotism as a priori category Krylov underlines, that success of Russian modernization can and even must rely on local self-consciousness and regional traditions [1]. Some representatives of the Novosibirsk ethnosociology school analyze concrete mechanisms of formation of regional identity and regional patriotism by the example of the Khanty-Mansiysk Autonomous Okrug – Ugra [2].

Other representatives of this school V. Marhinin and I. Udalova have used for the first time in Russian sociology a term “interethnic community” and fixed in it an important trait of polyethnicity, which is common for majority of local communities [3]. Although this term was used by them with respect to local communities, its heuristic potential is demanded for the study of regional communities.

Taking into account the fact of polyethnicity of regional communities is necessary for all subjects of the Russian Federation. It has the special meaning for the analysis of state of affairs in national-territorial subjects (republics and autonomous okrugs), as the fact of presence of title nations influences significantly on the regional processes going. In such kinds of regions processes of formation of collective memory and its reflection in ethnic self-consciousness of different ethnic groups have their own peculiarities. This article is devoted to the analyses of common and concrete questions of this problem (by the example of the young people in the Altai Republic).

It is generally known that historical memory is one of the factors, that influence on the formation of patriotism and love to the “little” and “big” homeland. Thereupon there are a lot of questions, which can be the objects of special attention for the researchers. We choose two the most significant questions in the context of the given task. In what degree does the memory about the past of the Russian population in the national republics in Russia perceive history of the national regions as its “own” history? Does the historical memory of the title nations contain any individual or event remembrance figures, which are also important for the Russians?

Collective memory of the ethnic commonality is included in the structure of the ethnic self-consciousness, which possesses the notions about “antiquity” of the nation, the future “golden age” and attitude to the own and other ethnic groups (auto- and getero-stereotypes, notions about national characters and ethnic images). If we view ethnic commonality as a form of social (extra-biological) collectivity, we should acknowledge over-individual character of ethnic notions. However the bearer of these notions is an individual, whose ethnic identity relies on the ideas about commonalities of historical destiny and culture of his nation, which appeared as a result of the spiritual unity between members of the ethnic group. This unity happens by means of the differentiation act in the context of the opposition “we - they” and by means of the correlation of bearer’s own value orientations with the values of the ethnic group.

The values of the ethnic group are becoming the individual’s value orientations in the process of socialization and the standards of behaviour and communication that are accepted in the culture are becoming the social notions. Interethnic notions, which have auto- and hetero-stereotypes at their basis, and, which are the reflection of the values of the world outlook character, that are peculiar to this ethnic commonality, form the communicative distance between communication partners.

A balance of positive qualities has a tendency to shift towards its own group and at the same time inter-group differences are being exaggerated and differences inside the group are being minimized. This phenomenon, which was stated by A. Tashfell in his experimental procedures, is known as a mechanism of intragroup favouritism (showing favour to the members of the individual’s own group in contrast to the members of other groups) in social psychology. A feeling of belonging to any ethnic group is an important social and psychological phenomenon that has a name in psychology – the rule of referential group membership.

Social psychologists call a reference group (in terms of H. Hyman and S. Stauffer) the group, which is the source of norms of behaviour, social

notions and individual's value orientations. The commonality "we" is defended by the norms of the referential group membership. This way of defence is characterized not so much by the aggressive forms of relational expression to foreign ethnic groups (in the favourable ethno-contact situation), as by the cognitive distortion. Inadequate reflection of reality is the result of the positive group identity. That is why interethnic ideas are adequate to reality in virtue of orientation of their functioning as a way of the consciousness response.

Attributive mechanisms take part in the unfavourable situation: the influence of the situation is underestimated and the manifestation degree of the opponent's traits of character and ideas is overestimated during the explanation of the "another" ethnic group representatives' behaviour. So the reason of the own failures is seen only in the unfavourable external historical events (victimacy complex) and the source of the problem is carried out outside and ascribed to the negative "essence" of the opposite side of the conflict [4].

Events and figures of the past are becoming symbols in the collective memory of the ethnic group. In the course of time they are getting meaning and weight a little bit different, than they were having for the contemporaries. English historian J. Tosh thinks that collective memory differs from the historical knowledge: if for the historical knowledge distortion is a difficulty that needs to be removed, then for the collective memory distortion is a necessity. Social group priorities, which are relevant in the present time, induce to highlight some facts in the past and ignore others. This is the pragmatics of the collective action: the group has to have a common understanding of the events and experience that have been gradually forming the group to get the collective identity. It is impossible without simplification and roughening of the facts of the historical past. It is impossible to construct the ethnic history, which is simple to understand for everyone, without this reduction. At the same time such a picture of the historical past is needed that it could be an explanation and excuse for the present even to the prejudice of the historical authenticity [5].

The detection task of the collective memory structures is not easy. Nevertheless a quite often met opposition between myth and history, epos and chronicle, archetype and narrative suggests that at least two levels of depth of the historical past images exist: a myth and a chronicle [6]. Their comparison shows the antiquity of the myth and the relative youth of the chronicle. Though the myth has traits of the narrative in the sphere of expression, it has differences in the sphere of substance:

- the complete absence of correlation with any chronological borders except so indefinite as "very long ago", "once in old times" and etc.;

- cause-and-effect connections are formed up not by the principle of causality (one determines another), but by the principle of analogy;
- the cultural hero (mythmaker) has such traits of character that a real person can't have.

A specialized layer of the historical memory should be also added to these two levels. This layer includes not only scientific, but also historical, religiously-philosophical and doctrine-ideological methods of the theoretical introspection, which are connected with an attempt to evaluate rationally the historical past. The ethnic history can be constructed exactly on this level as a complete vision. The mentioned level is not correlated with a proper scientific knowledge: the character of such introspection does not obligatory correspond to the criteria that are presented to the scientific knowledge and it can be a part of another extra-scientific knowledge: religion, art or metaphysics.

Three types of society can be distinguished according to the ways of information delivery and storage in accordance with Y. Lotman's conception about connection between memory types and written language [7].

The traditional society was rested upon oral methods of the information delivery and storage. The aim of such diachronic communication (information delivery from one generation to another) was a tendency to save information about order and norm but not about excesses. From here a mythical "eternal return" to the same source originates and it is caused by the society need to reproduce the same texts. It is no wonder that the mythological level of the collective memory is the dominating one in the societies of the traditional type.

The modern society is rested upon the written way of the information delivery and storage. Modern rudiments appear already in the traditional society. They are connected with a necessity to register events what is impossible without dating. The information delivery that has an exceptional and event character becomes a system phenomenon in the modern society. A necessary element of such knowledge is the fixation of cause-and-effect connections. Such character of the social experience delivery and storage is caused by the needs of the society, which is interested in the increase of the number of texts. The chronicle-narrative level corresponds to the event character of the collective memory transmission. This character supposes necessarily a presence of a fixed date, real cultural heroes and cause-and-effect relations between events. The post-modern society, which outlines appear distinctly in the modern Russian reality, mixes borders of all genres. It still has traits of the modern society (that is written in mechanism and casual in the type of memory), but we can see already a mixture of the knowledge types.

Parascientific and unscientific knowledge declares about its rights in the explanation of what the science can't explain. This circumstance makes such kind of knowledge attractive in the average man's opinion whereas the expert knowledge can be not demanded. In the post-modern epoch the statuses of the ignoramus, theologian and scientist are equalized when the problems that apply to the whole society are discussed.

Thus we think after L. Repina that the collective memory is a complex of myths, traditions, beliefs and ideas about the past, which are shared between the society members, and the group memory about the "common experience" that was gone through by people together. The meaning of the memory is connected with the comprehension of the past events and experience (real or imaginative) because the revival of the shared images of the historical past has the special significance for designing the social group in the present [8].

The structure of the collective memory of the ethnic commonality looks in our opinion in the following way. The first, lower and genetically primary level corresponds to the mythological thinking with peculiar to him syncretism and un-ruggedness to the cause and effect, absence of the notion about the duration and chronology and the cyclic conception about time. This level of the collective memory correlates with the historically primary type of the traditional society, with the typical to it orientation to the past, the search of the source and beginning, appeal to which is urged to constitute the existent order and stability of its reproduction in the future.

The second level corresponds to the narrative or chronicle. The linear notion about the time, the fixation of cause-and-effect connections and the notion about the duration and chronology are typical for this level. The second level appears according to the extent of the growing need in the fixation of the big amount of knowledge that is already in the high civilizations of the antiquity. It is becoming mass with a spread of literacy and development of book-printing in the modern society that is oriented on the relevant needs in the information processing and storage.

The third level corresponds to the specialized knowledge that was formed during the modern epoch on the basis of the classical rationality. An access to this level is acquired not only by means of such institutionalized forms of the knowledge delivery as mass media and educational system, but also by the Internet, during the post-modern epoch when the electronic communication systems are developing. The speed of the information delivery is growing and at the same time trust to the "old kind" science is going down. Explanation methods of the historical past that are rational by its type of statement are starting to be popular, but for all that the degree of their scientific authenticity turns out to be often beyond criticism.

The mentioned ideas above can relate in a number of cases not only to the ethnic commonalities, but also to the regional interethnic commonalities in the subjects of the Russian Federation. One of them is the Republic of Altai. 2006 it celebrated 250-year-old anniversary of joining to Russia that happened after 12 Altai zaisans (clan chiefs) had made a request to the Russian empress Elizabeth to accept them and people from their clans to the Russian citizenship (1756).

Memory about the choice of the Altai indigenous population in favour of coexistence with Russia has been saved in historical documents, folklore and Altai belles-lettres. On the border of the 80-s and 90-s of the twentieth century the Republic of Altai had got a status of the national-territorial subject of the Russian Federation, what gave reasons for some regional leaders to say about acquiring sovereignty, limited by the Russian constitution. How much does the anniversary of joining to Russia become a generally valid for all inhabitants of the Republic irrespective of the ethnic nationality?

Before we start to describe the methods of the field study it should be noticed that the cultural memory phenomenon was in focus of the scientific interest as the communicative memory of the survey participants is not yet formed because of their young age and penury of the “biographical” material for wide historical comparisons. A tool for the survey was an inquirer of the formalized interview. The inquirer included open questions and questions, which had a “menu” of answers, from which survey participants could choose more than one answer. The survey was carried out in an oral and written form. A survey procedure supposed an obligatory infill of an interview form. Today more than 500 people – senior pupils from schools of general education and students from institutes of higher education and colleges (Gorno-Altaiisk, Ust-Kansk and Ust-Koksa regions of the Altai Republic) have been interviewed.

From this number 132 interviews with pupils of Gorno-Altaiisk schools and students of the Gorno-Altaiisk state university including senior pupils of the republican gymnasium and students of the third, second and third courses of the economic, juridical and biological departments of this university were analyzed more fully. The age of the youngest survey participant was 15 and the age of the eldest one was 26. The average age of the participants was in the range from 17 to 21 (73,5% of young men from 132 people, who agreed to give an interview) although there were some much younger people (19.5%) among them. Exactly this part of the results of the carried out survey is summarized in this article.

The research has proved the significance of the common historical past for the ethnic identity of the Altai learning youth – the Russians and the Altai people. Communion of the historical destiny takes the important second place after the native language – for the Russians (72 and 71%) and after the native land – for the Altai indigenous population (75 and 67%) among the features that are significant for the ethnic belonging definition for the survey members. Other criteria (religion, appearance and national character) have lower statuses in the mentioned rate.

The survey let us reveal the dominating ways of transmission of the ethnically important information. Books (89%), mass media (74%) and school (67%) are the most essential channels for the transmission of the knowledge about modern life, history and culture in subjective appraisals of the Russians. The important source of the ethnic information for the Russian learning youth still remains family (64, 5%). In contrast to the books, mass media and school that are public sources of information, which are oriented to the written transmission, a family is a private information channel in our opinion, where knowledge is delivered as they say “by word of mouth”.

Not only public information channels and information channels that are oriented to the expert knowledge – mass media, books and school are significant in appraisals of the Altai learning youth representatives, but also private institutes of family and relationship that suppose informal interpersonal communication play an important role. The significance degree of each channel looks the following way (in decreasing order): family (71%), mass media (60%), school (57%), books (57%) and elder relatives (54%). It let us fix the importance of the traditional channels of the ethnic information transmission that are oriented to the family connections for the Altai research participants. At the same time such “traditionalism” is in a linkage with public social institutes that have one of the functions – transmission of the socially-significant information.

So the importance of the public information channels (school, mass media and books), which belong to the modern culture that has a written type by the ways of the information transmission and storage, let us fix an orientation to the professional (expert) institutes of communication among the Russian and Altai learning youth in the process of the knowledge transmission about their own ethnic group. The Russians have this orientation more marked, the Altai people – to a lesser degree: 74% of the Russian research participants and 60% of the Altai participants are oriented to mass media, 89 and 57% accordingly – to books, 67 and 57% - to school (nationally-regional component of the secondary and higher education). The Russian significance indices of the ethnic information private channels are lower than the Altai indices: family – 64, 5 against 71%, elder relatives – 23 against 54%.

Such character of the collective memory about the past is the evidence of that this knowledge is transmitted from the specialized level in the educational statement. At the same time there is not enough rationality in young people's arguments when they explain concernment reasons of historical events. It appears that an interest to mass media and artistic and educational sources of the ethnic information delivery is described not so much by the tendency to get the reliable information (that is how the historians' activity is motivated), as by the desire to maintain the emotionally-associative contact, on what the ethnic solidarity feeling is grounded. This contact is based on the archetypes "we", which are positive for the group identity of any nation and which include a notion about proper heroism, kindness, intragroup solidarity and patriotism.

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## THE SIGNIFICANCE OF POST-CLASSICAL PHILOSOPHY FOR MODERNITY

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**Annotation.** In this article an author gives an estimation to world view potential of post-classic philosophy in a modern period. An author supposes that basic senses and values of this philosophical tradition can assist more harmonious development of society in the conditions of globalization and going today transformation processes.

**Keywords.** Contemporaneity, development, post-classic philosophy, spirit, soul, consciousness, world view

It is difficult to overestimate the importance of post-classical philosophy for the present.. We can say that it was post-classical philosophy that determined the face of the modern era and continues to outline the contours of the possible future, drawing from its external and internal contradictions the impetus for the intensive development of culture and civilization.

Since the main sense-forming feature of post-classical philosophy was the transition from contemplation to praxis, its influence went far beyond the purely academic, scientific and educational areas. The strategies of thinking of post-classical philosophy have turned into political, ideological, artistic, non-religious attitudes, receiving material embodiment in the most important areas of public consciousness.

If we talk about politics, and, more broadly, about ideology, one cannot help but recall such two philosophers of the postclassical paradigm as Marx and Nietzsche.

The teachings of Marx formed the basis of Soviet ideology and for almost a century determined the vector of socio-political development of such a huge state formation as the USSR.

In the emergence and formation of Marxism, as always, there was a dialectical process of the mutual transition of determining factors: on the one hand, Marxism itself appeared as a natural consequence of the era, on the other hand, Marxism from some point began to actively influence the

era and even define it in key contexts.

If we talk about the innovative thinking of Marx, first of all, it should be noted fundamentally rethinking of the social function and the role of philosophy. It is Marx who gives a clear wording that cancels the tradition of passive contemplation of the world and affirms the need for its revolutionary transformation. In the article "Theses on Feuerbach" Marx writes: "Philosophers have only differently explained the world, but the point is to change it." [1].

The philosophy of Marx combines the principles of dialectical and historical materialism. These principles were already formulated back in the framework of classical philosophy, but it was Marx who made these principles directly dependent on human activity.

Hegel's idealistic dialectics recognized as the subject of history the World Spirit, the Absolute, which was a secular, philosophical and speculative version of the God of theism. Marx, having taken materialistic position, designated social classes the antagonism of which creates the driving force for the development of the historical process, as true subject of history.

Despite the fact that Marxism itself, like any metatheory, claimed universalism, in reality the legitimacy of Marxist theses is limited by the social space of capitalist societies. According to Marx, the struggle between social classes takes place over the possession of economic goods, and their distribution in society provides the dominant mode of production, which determines production relations. It is clear that the central categories of Marxism, such as "mode of production", "production relations", "added value", etc. can be applied only to those societies and cultures where material production takes place as the main economic basis. However, studies of modern ethnographic sciences suggest that there are cultures in which the economy is organized on fundamentally different grounds, and, therefore, Marxist theory ceases to be relevant not only to describe the specifics of these societies, but also to identify their patterns.

Nevertheless, capitalism, as the main social and political ideology, has already since the New Age (early Modern period in European history science) become the underlying foundation of the European worldview, and in the 19th century during the colonization it was also invaded into other countries. Therefore, at the beginning of the 20th century, capitalism was an international ideology and, accordingly, Marxism, which was a critical reflection of capitalism and a reaction to it, also had a character that went beyond the boundaries of an individual nation.

Marxism, along with Nietzscheanism and Freudianism, is traditionally

referred to as theories of suspicion. All of them reveal the true background of the phenomenal dimension of human existence. Marx, in particular, sees in the previous philosophy the guised interest of the ruling classes. Classical philosophy, being biased by bourgeois ideology, produced concepts that ensure a stable state of things, concepts that protected and preserved the integrity of the current socio-political system. Obviously, the classics of German philosophy Kant and Hegel were loyal monarchists and the interests of the state were always put above the interests of the individual. The revolutionary nature of Marx's ideas was manifested in the fact that they were aimed at liberating the self-consciousness of the working class, oppressed by traditional bourgeois ideology. Marx formulated a clear, concise and consistent program, which stated that ideals, values and goals do not exist on their own, separate from people, but are actively created by people themselves in the course of continuous historical practice. Therefore, Marx considered practice as the criterion of truth.

Such a revolution in understanding the essence of truth produced a revolution in the public consciousness of the masses. From now on, they saw no reason in obeying existing requirements and maintaining existing order. Marxism affirmed a new type of worldview, nihilistic constructivism. There is no truth, but we ourselves will create it.

It was this ideological guideline developed within the framework of the Marxist philosophy that became the leading one in the construction of a grandiose social project called the USSR. For the sake of historical justice, it is worth noting that the USSR indeed became a real ideological alternative to world capitalism.

Such is the historical significance of the post-classical philosophy of Marx and its significance for our time. After all, the situation in which we are today, the researchers so far conceptualized as "post-Soviet." This means that the semantics and axiology of the current public consciousness largely functions in line with the inertia of the Soviet heritage.

Another example of the influence of post-classical philosophy on the history of the 20th century can be called the idea of the Superhuman (orig. *Übermensch*), formulated by Nietzsche. It served as the ideological foundation for fascism, which, along with capitalism and socialism, constituted one of the three main possible programs of world development in the struggle of the political forces of the last century.

Like Marx, Nietzsche was very critical and revolutionary. But his criticism and his revolution (ideological) were far more radical than those of Marx. The collectivist orientation of Marx Nietzsche contrasts his position of extreme individualism.

Marx, being a direct heir to Hegel, even interpreting his dialectics in a materialistic manner, nevertheless recognized the existence of objective laws of natural and social processes. Nietzsche, not considering himself to be anyone's student, violently opposes any philosophical tradition and denies the action of any laws in history. According to Nietzsche, everything in life is determined by values, and a person creates values with his willful decision. Nietzsche is a voluntarist of the spirit. He does not recognize the action of any transpersonal forces on a person, whether it be the World Spirit like Hegel did, or the interests of the social class of Marx.

The fundamental irrationalism of Nietzsche's mental aspirations has become one of the main reasons why the ideologists of fascism turned to his legacy. It is important to understand that fascism was an absolutely anti-modern neo-mythological ideology.

Fascism, in contrast to socialism, based on faith in scientific and technological progress, and in contrast to capitalism, based on utilitarian purposefulness, was based on a sensually hypertrophied cult of the hero. To substantiate their ideology, the Nazis turned to the content of the Scandinavian myths, that acted ecstatically inspiring on the masses.

If Marxism was a philosophy debunking the illusions of idealism, then Nietzscheanism, thanks to the poetic mood of the thinking of its creator, rather suggested a new illusion, a new myth - a myth of racial exclusivity, a myth of historical and cultural superiority based on blood-genetic identification. The image of a purebred Aryan in fascism was written off from the Nietzschean image of the "blonde beast". And the idea of Nietzsche's Superhuman became the starting point for the racist-eugenic propaganda of the ideas of subhuman and inferior nations.

The scale of the influence of Nietzschean philosophy extends not only to art (literature, painting) and religion, but also to politics, and to culture at a whole. The same, though, is true of the philosophy of Marxism..

The consequences of this influence are not only positive. Today we are too well aware of the horrors of the "costs" of communism, the Stalinist repressions, the inhumanity of fascist concentration camps, the Holocaust, the inhumane experiments that were conducted on prisoners with the official approval of the governments of the superpowers.

To paraphrase Marx, we can say that not only being determines consciousness, but consciousness sometimes determines being. The critical potential of post-classical philosophy, being a purely theoretical and intellectual attitude of a number of thinkers, at the level of its embodiment turned into a nihilism of dehumanizing ideologies that legitimized numerous atrocities and crimes against humanity.

Therefore, comprehending the importance of post-classical philosophy for modernity, we have to admit its extremely ambiguous character. On the one hand, one cannot but state a breakthrough into the sphere of fundamentally different forms of thinking and self-expression of the human spirit. This is supported by a huge variety of experimental directions in art that arose as a result of inspiration and reception by artists of the ideas of post-classical philosophy. This is evidenced by the stunning breakthroughs in the technical sciences, the rapid informatization and cybernetization of the globalizing world. On the other hand, post-classical philosophy, having gone beyond the academic ways of traditional existence, has decisively invaded fundamentally non- and extra-philosophical spheres (politics, ideology, economics, religion) and it cannot be said that this passed without consequences for all of humanity, and these consequences were harmful. Even today, having the opportunity to look at events of a century ago and evaluate them from the perspective of our historical position, we have to humbly admit the impossibility of making any final judgment. Firstly, because we are flesh from the flesh of the main events of the XX century and without them our identity is unthinkable, be it collective or individual. Secondly, because we still exist, think and act in the paradigm of post-classical philosophy.

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**FUNDAMENTALS OF TEACHING THE TECHNICAL AND FORMAL ASPECTS OF READING IN ENGLISH LESSONS IN NON-LINGUISTIC UNIVERSITIES**

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**Abstract.** This article is devoted to the study of the features of teaching students the basics of reading in English lessons in non-linguistic Russian universities. The purpose of teaching to the technique side of Reading is expanding the skill to associate the text material with its intonation models correctly, quickly and exactly, and to comprehend the sensible parts of a text with maximum correct intonation and pronunciation. It is disposed both to Reading aloud and to oneself.

**Keywords:** reading, speech activity, communication, learning stage, visual perception, analogy, syntagma.

Successful formation of any type of speech activity is possible if the educational process is based primarily on the principle of communicative orientation in learning so that students mastered the communicative function of language, understood speech by ear, could engage in conversation, make small reports, read with different target settings, compose a letter, abstract, abstract at the level of elementary communicative relevance. Teaching reading technique is inextricably linked to teaching comprehension

However, the teaching of reading technique has a number of its own problems associated with the essence of reading technique, methods of teaching reading: the connection with oral speech, the question of maintaining reading skills at all stages of learning. The mechanism of reading is the ability to correctly, quickly and accurately associate the text material covered by the eye with its sound images and reproduce aloud with max-

imum aural and intonational accuracy meaningful segments of the text. This definition refers to the technique of reading aloud [4].

Reading technique is also available when reading to oneself. Therefore, reading technique instruction must be related to both reading aloud and sight-reading. When reading to oneself, playback does not occur in external speech as in reading aloud, but in internal speech. The main thing in the mechanism of reading is the correlation of visually perceived graphic signs with the corresponding sound signs. Mastering this skill involves difficulties, which the methodology devotes a lot of attention to.

Some of these difficulties are the same as those encountered in mastering reading in the native language. Therefore, having reading skills in the student's native language facilitates the more rapid development of similar skills in the foreign language. However, reading in a foreign language also presents special challenges. The difficulties in reading in a foreign language are due to the fact that sound and visual images are weaker than in the native language because students have much less practice in reading and speaking.

Self-control in a foreign language is more difficult because vocabulary is always limited. Great difficulties are observed in the peculiarities of sound-letter relations in the studied foreign language, in the novelty of graphics, its difference from the native language. for example, the presence of the same letters in the English and Latin alphabets, which convey different sounds [3, p. 192].

Difficulties also present new combinations of letters in the studied language, the presence of unpronounceable letters, different reading of the same letter depending on the type of syllable, special accent. Perception of individual letters and relating them to the sounds does not constitute the act of reading. The process of reading is to combine the perceived graphic signs into a whole, which represents a meaningful unit of speech. for such a combination in reading is the graphic word.

When reading, visual sensations first arise, which only translate into a visual image when motor and auditory sensations are present. Auditory sensations are transformed into an auditory image only with the involvement of motor sensations. Thus, when teaching reading, it is necessary to create visual- auditory motor connections. It is important to keep in mind that to recognize words it is often enough to recognize only part of the signs. The whole image of a word created in the brain is reconstructed by the overall shape of the word and the individual letters.

Facts from psychology show that the graphic form of letters, size, overlap, etc., are important. The letters protruding beyond the line (f, t, l, g) are

reference, words with them are easier to read. In the process of reading there is an analysis and synthesis. On the one hand, visually perceived letters make it possible to recognize the word as a whole, on the other hand, the pronunciation unit is not a word, but a syllable.

Therefore, the question of the ratio of analysis and synthesis in the process of mastering the technique of reading is one of the most complex issues of the methodology of teaching the technical side of reading. There are two points of view on this issue. Some methodologists are supporters of the "whole word" method, they believe it is appropriate to memorize graphic images as a whole, without analyzing their letter-sound composition. Others believe that reading should be taught by teaching syllable reading in the process of letter-sound analysis.

This method is called analytico-synthetic. Since the reading material at the beginning stage is limited and there is preliminary verbal work on it, the question arises whether it does not create conditions for reading whole words? As the vocabulary material expands, similar words that contain the same syllables appear. When reading these words the student is forced to dissect, isolate their elements, otherwise he cannot recognize them [5, p. 102].

Division of words into syllables and voicing of letters obeys certain laws, corresponds to the system of sound-letter relations of a given language. Sound-letter relations can be expressed in the form of rules for reading. It is necessary to avoid memorizing too many rules of reading. Only rules that cover a large number of words should be communicated. A very difficult problem arises from the fact that many words, especially in English, are not read by the rules. There is a point of view that in order to consolidate the rules of reading, it is necessary to avoid exceptions to them in the beginning.

The method of solving the problem is to master the reading of such words practically, partly on the basis of analogy, by repeating them repeatedly in a variety of exercises. When memorizing the graphic side of such words, sound and letter analysis can partly be used, noting certain features of these words. The associations that are created at the same time contribute to memorization (for example, the combination of -gh- in the word eight) [1, p. 157].

As students progress in language learning, the relationship between the role of rules and analogy changes. At a more advanced stage, when they have already gained some experience in reading in a foreign language, reading by guesswork, which is based on analogy, becomes possible. It is debatable whether or not students should read unfamiliar words while mastering the reading mechanism.

Some methodologists believe that students should be trained to read unfamiliar words that obey passed reading rules as early as the first year of study. Others recommend that the reading of unfamiliar words should be considered a more advanced stage of the course. Learning to read unfamiliar words should be taught, but not at the moment of skill formation [6, p. 113]. At a more advanced stage of learning sound-letter and syllable analysis should be used when introducing new words. The need for analysis decreases as the mastery of reading technique, but even at the advanced stages of training to the analysis should be resorted to in cases where an error is made in reading (especially long and difficult words).

Reading aloud is appropriate as one of the skill-building exercises, and it is fundamentally wrong to reduce all reading to it and limit reading to this type of reading. The practice of reading aloud a text can only be necessary as an exercise that prepares for the development of oral language. Expressive reading also has an educational value, so it can sometimes be the conclusion of work on a text.

Reading to yourself should be used to teach reading comprehension. When reading a text, the focus should be on the content, not on the technical side of the text. Therefore, the reading of the text should be started after the process of reading and sentences no longer requires special attention.

At the initial stage, rhythm is worked on verbally, in the process of verbally practicing new material. To master the rhythm at all stages of training, it is useful to practice reading worked-out texts with the observance of rhythmic groups and correct pauses, as well as listening to gramophone recordings. To improve reading technique with reading comprehension it is recommended to develop in students the ability to read not by words, but by syntagmas [2, p. 72].

It is necessary to teach the correct placement of rhythmic accents in a syntagm and a phrase, that is, the correct placement of pauses. To do this we use grammar recordings. The teaching of intonation is carried out by imitation, which does not exclude a conscious approach to this issue. Exercises should be conducted for the development of speech hearing: the teacher pronounces a phrase with a clear division of it into rhythmic groups. Students determine the number of rhythmic groups in the phrase.

Thus, for teaching English reading to students of Russian non-language universities, it is best to use repetitive summarizing material accompanied by visual associations and work with syntagmas. To develop students' combinative abilities, you can diversify the exercises, for example, give syntagmas in disorder. Students should put them in a logical order and

compose the text. You can intentionally leave out some syntagmas, and students will have to reconstruct them. This promotes the students' predictive, predictive ability, which is also very important for the formation of the reading mechanism in English.

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## REPRESENTATION OF THE CONCEPT OF "FAMILY" IN THE MATERIALS OF RUSSIAN-LANGUAGE WEBSITES OF MEN'S AND WOMEN'S MAGAZINES

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**Abstract.** The article analyzes the materials of the sites of Russian-language international men's and women's magazines in terms of the representation of the concept of "family" in them. It is concluded that the concept of "family" is represented in magazines for a female audience. The materials of these magazines reveal that it is the woman in the Russian space that is responsible for preserving the family.

**Keywords:** concept, family, national worldview, gender.

For any nation, the family is an enduring value. And although now in most developed countries, young people postpone the creation of a family to a more mature age than their parents, and some men and women adhere to the "childfree" views, no one disputes the assertion that the role of the family in the formation of personality remains a significant enough force. It is in the family that a person forms his moral and ethical principles: "The family contributes to the intergenerational transmission of cultural experience, the content of which depends on the attitude to the transmitted values and changes in various historical and sociocultural conditions" [Glazkova 2015: 58]. In Russia, the family and its problems are relevant, there is a multi-vector support for young families, large families, families with children with disabilities. Politicians, celebrities and public figures talk about family problems, and much attention is paid to this in the media.

The concept of a *family* in the Russian Picture of the World has its own extensive conceptual sphere, including a number of cognitive features. So A.S. Truschinskaya, exploring only the utilitarian zone of the Russian concept of the *family*, identified 33 such signs, 5 of which are the most frequent and give an idea of the image of the family in Russia: 1) the family provides intra-family care, 2) the family provides intra-family mutual assistance, 3) the family brings up children, 4 ) family members provide for the whole

family, 5) in the family they protect each other [Truschinskaya 2009: 342-343]. At the same time, the roles of all its members are clearly defined in the Russian family, for example, a man a priori takes a leading role. This is confirmed by the study of Pavlyk D.I. and Konareva A.A., who, comparing the dictionaries of the Russian and English languages, come to the following conclusion: "The dominant position is occupied by a man. The passivity of the role of a woman is reflected in the lexical system of the Russian language: a woman is presented/given in marriage, she (lives) married, while a man takes, marries, that is, acts actively"[Konareva 2015: 129]

Modern men and women spend a lot of time on the Internet, so popular print periodicals create their electronic versions and official websites in different languages in order to retain and expand their audience. Media materials, like any other texts, reflect the Picture of the World, representing various concepts through linguistic means, including the concept of "family". We analyzed a number of materials from popular magazines for men and women in Russia in order to identify some patterns in the understanding of the Russian family.

The popular international magazine for women Cosmopolitan has an official Russian-language website, which covers in its headings issues of interest to the female audience: news, fashion, beauty, stars, relationships, health, lifestyle, psychology. Another well-known international women's magazine Glamor presents on its Russian-language website materials divided into the following headings: fashion, stars, news, fitness and diet, beauty, relationships, culture, for mothers. Attention is drawn to the fact that in these magazines (as well as in other women's magazines) there is always a "relationship" section. The purpose of this section is to help a woman find answers to questions about problems in communicating with her beloved man, children and other relatives (parents, mother-in-law). Also on the Russian-language site of the Lisa magazine (lisa.ru) there are sections with materials about the family: Psychology and Children. For example: "The husband does not appreciate and does not respect his wife: the psychologist tells how to make him respect" (from 05.19.2020), "Instead of "well done" and "good": how to praise a man correctly" (from 04.03.2020), "How to build a good relationship between a child and your new husband: 8 tips from a psychologist" (from 28.02.2020). Thus, we can conclude that it is in the part of the materials of the headings "Relationships", "Psychology", "Children" and "For mothers" that the concept of a *family* is represented.

If we compare the Russian-language sites of men's publications with women's, we will see that their topics are largely different. For example,

the site of the popular magazine for men Esquire has several branches of articles: news, stories, rules of life, style and grooming, movies and TV shows. We have not found materials on building relationships with a wife or children in any of the article threads. Another men's magazine Mens.by has a website with the main headings: style, sports, sex, career, technology. The site of the EGO magazine is presented by headings: style, techno, culture, health, geography, food. As you can see, men's magazines do not pay much attention to children or the psychology of family life.

Thus, when analyzing the materials of the official sites of various magazines for men and women, first of all, the following conclusions can be drawn: firstly, in the electronic media space, the topic of the family is revealed in publications for women. This is due to the fact that in Russian culture it is the woman who is the keeper of the hearth and bears the main burden of raising children. Secondly, the topics of the headings of the sites of magazines are gender-specific.

Let us consider in more detail how the concept of "family" is represented on the sites of women's magazines. When analyzing women's publications, we can conclude that a woman's family life is directed simultaneously along two vectors: husband and children. A woman should, according to a special algorithm, build relationships with children and pay special attention to building relationships with a man. At the same time, materials about children rarely mention the father and his role in raising children or solving any child problems.

In women's magazines, special attention is paid to communication and raising children. For example, in the article "Don't say anything: 10 phrases that interfere with raising children" on the website of Cosmopolitan ([https://www.cosmo.ru/psychology/child/nichego-ne-govori-10-fraz-kotorye-meshayut-vospitaniyu-detey/?0=m&1=a&2=i&3=n&4=\\_&5=3](https://www.cosmo.ru/psychology/child/nichego-ne-govori-10-fraz-kotorye-meshayut-vospitaniyu-detey/?0=m&1=a&2=i&3=n&4=_&5=3)) magazine, a mother is advised not to criticize her child. Women are advised to discuss intimate issues with adolescents, for example, Cosmopolitan devotes this article "Children about love: 8 rules for talking with children about feelings and sex" (dated 04.14.2019, 04:30), in which it recommends having a positive conversation with key, don't make fun of first love, discuss contraception.

Mom is responsible not only for the education and mental comfort of the child, but also for the organization of children's leisure. For example, Glamor magazine publishes the following materials in the section for mothers: "How to organize a children's party so that the child will be delighted: decorator's tips" (dated January 31, 2020), "What to do with children on New Year's holidays" (December 25, 2019).

A woman in a family is assigned the role of a family doctor; in the headings "Children" and "Health" in women's magazines there are many materials about childhood diseases. For example, Liza magazine offers the following materials for reading: "Instead of drugs: how to take thuja oil for adenoids in children (step by step instructions)" (from 04.23.2020), "Scarlet fever in children: 8 ways to help a baby" (from 09.23.2019). At the same time, the mother must be able to diagnose some diseases, as evidenced by the articles: "Worms in children: symptoms, signs, treatment" (from 12.09.2018), "Hypoglycemia" (from 19.06.2015).

In the family, it is the mother who is responsible for the education of the children. Liza magazine has several sub-headings devoted to this under the heading "Children": School, Kindergarten, Children and Their Development, etc. For example, they talk about the USE in the article "How to help parents prepare for the USE: real advice from experienced tutors" (from 29.10.2019), career guidance is discussed in the material "7 fatal mistakes of parents, because of which children choose the wrong profession" (from 18.10.2019) and "Professions of the future: trend-hunters, web-gardeners. Who will your children be?" (from 10.10.2018).

All the advice that is given to a woman in articles about relationships with children indicates that the mother should be sensitive, support the child, respect his choice, reflect on his words and phrases, not suppress him emotionally, and give sufficient freedom for self-expression. Thus, we can conclude that in relations with children, a mother should be a psychologist and a friend, understand issues of education and medicine. Based on the analyzed material, the following theses can be formulated that reveal the semantic content of the concept of "family":

1. The mother in a family – friend to the child.
2. The mother in a family – psychologist for the child.
3. The mother in a family – home doctor for the child.
4. The mother in a family – expert on many issues.

A woman's relationship with her relatives and, first of all, with her husband is described on the sites of women's magazines in the materials of the headings "Psychology" and "Relationships". In the "Relationships" section of the Liza magazine website, a large selection of articles on the topic of improving intimate relationships is presented. Among the materials on other topics, those that provide advice on resolving conflict situations prevail. For example, in the article "We cannot agree: 4 reasons for constant quarrels and 4 steps to a peaceful life" (dated 05.21.2020), a woman is advised to express her displeasure, but at the same time reconsider her attitude to the situation and pay attention to herself. Cosmopolitan maga-

zine also pays great attention to intimate life in the Relationships section, highlighting 2 headings for discussion of these issues. Two headings are also devoted to solving other problems: "You and him", "What men think". There are fewer articles that talk specifically about family problems: out of the first 10 materials (we reviewed in June 2020), only 2 dealt with intra-family issues. Very indicative in terms of revealing the roles of men and women in the family is the material on the website of the Cosmopolitan magazine "You need to - you do it: how men avoid household responsibilities" (from 16.05.2020), which describes the situation of the distribution of household responsibilities between spouses in Russia as a whole.

Based on these materials and other articles on the sites of women's magazines, the following theses can be formulated that reveal the semantics of the concept of "family":

1. The wife takes care of the mental well-being of the children and the husband.
2. The wife is more involved in the household than the husband.
3. Wife and husband should respect each other.
4. The wife understands the intimate problems of both partners.

After analyzing these articles, one can conclude that the woman is primarily responsible for maintaining relationships, marriage and raising children. At the same time, a woman should respect both herself and a man, but treats a man in everyday life more indulgently. It is the woman who supports the mental well-being of both her husband and children. At the same time, a woman is recommended in the materials of women's magazines to monitor her appearance, work and educate herself.

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**LANGUAGE TRADITIONS IN PROSE OF THE NEW REALISM:  
SUBJECTIVATION OF THE AUTHOR'S NARRATIVE AND THE  
IMPLICIT NARRATOR (ON THE MATERIAL OF S. SHARGUNOV 'S  
STORY «AUSWEISS»)**

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**Abstract.** The article, based on the story of Sergei Shargunov "Ausweiss", sets out the options and methods for subjectivizing the author's narration, as well as methods for introducing an implicit narrator into the text. In the course of compositional deployment, the ratio of the categories "author's image" and "implicit narrator" pulsates, but remains the fundamental vector that sets the tone for the linguocultural type "official". The shift of the point of view from one sphere to another is reflected in the change of speech parts. The deliberate clash of colloquial and book vocabulary, occasional word formation and word use of adverbs, syntactic inconsistency of the members of the sentence become indicators of the author's omniscience and objectification of the narrative. The narration is subjectified in contexts where the author's all-vision is replaced by immersion in the inner sensations and consciousness of Dvortsov. The implicit narrator is verbalized through contextual antonyms, lexico-syntactic parallelism, end-to-end impersonation and expanded metaphor.

**Keywords:** the image of the author, the implicit narrator, the subjectivation of the narrative, the language composition of the text.

The study of the linguistic composition of works of small prose of new realism makes it possible to make an "anatomical" cut of modernity, to focus on verbalized strokes to the portrait of the era. According to S.M. Kaznacheeva, the differentiation of trends in the history of literature does not take place according to technical tools or an arsenal of figurative means, not even according to an aesthetic program. "The fundamental difference between art schools and styles is in the attitude towards God, the world and man" [Kaznacheev 2014: 33]. The indicated position is a variation of Yu.M. Lotman: "In a literary text, an orientation toward a certain type of

shared memory <...> becomes a meaningful (that is, free) artistic element capable of entering into a game relationship with the text" [Lotman 2000: 204].

One of the iconic authors of new realism (along with Roman Senchin and Zakhar Prilepin) is Sergei Shargunov, also known for his active civic position and intense political activity. On the space of S. Shargunov's prose researcher E.M. Rotay writes: "The world created by S. Shargunov is located on the border of verbal art, fiction and <...> a kind of memoir documentary. <...> S. Shargunov appreciates both his own past and recognizable social contexts <...> avoiding fantasy and outright fiction" [Rotay 2013: 10-11].

To illustrate the above-mentioned features of idiostyle in the context of the linguistic traditions of the direction as a whole, let us turn to the story "Ausweiss". First, here the third-person narrative is often deprived of its classical objectification - it is subjectified into the sphere of the character-storyteller through a shift in the point of view. This is a manifestation of the tendency characteristic of Sergei Shargunov "<...> to depict not the events themselves, but their reflection in the experience, their psychological reflex" [Serova 2015: 159]. Secondly, the similarity of socio-political, spiritual, moral and cultural views brings the two speech parties as close as possible - the author and the narrator. Thirdly, the reader is presented with a sketch (not even a fragment of history) with an open ending, which, however, does not imply a rhetorical set of permissions and is easily conjectured due to anticipation according to a social stereotype. Such a presentation helps, abandoning the climax, to convey a certain localized length of existence as a self-sufficient fragment. These features of the narrative picture of the text make it possible to talk about the appearance of an implicit narrator-character in certain compositional segments.

In terms of the general tone of perception by the reader, "Ausweiss" is close to the stories "The Nose" and "The Overcoat" by N.V. Gogol. Only the "yardstick", the "quintessence" of a person becomes a deputy's certificate - a symbol of position in the social hierarchy. The hero not only forgot/lost the document as a thing - he lost his status in his usual world order. That is why the story contains 9 nomination options, the stylistic range of which is wide: jargon "ksiva", colloquial "binding", official business "certificate" and "mandate", artistic "treasured document", "secret spring of wardrobe and life", "brown rectangle of ksiva under a slippery laminate", "a small thing", "red-skinned thing". Formally, the tenth variant of the nomination, which is included in the title, also belongs to the colloquial style, which, however, at the substantive-subtext level, can be considered a common

ideological denominator, an indicator of the author's attitude to the deputy Dvortsov. *Ausweiss* (the historical meaning of the word) was issued by the German authorities in the occupied territory, which means that in the popular minds of the bearers of Soviet and post-Soviet culture, this name of a pass-certificate is associated with the image of the enemy. The popular attitude towards the "official" type also resonates with this meaning: "Systemic connections are expressed <...> in the evaluative qualifications of this type from the standpoint of the effectiveness of his activities <...>, from the standpoint of ethical norms of human relations, while the subjects of assessment are people, who are dependent on an official or outside the civil service" [Karasik 2009: 236]. Also V.I. Karasik notes: "The accusation of bureaucratic idiocy is explained by the lack of common sense in the decisions of officials. This state of affairs is due to the formal attitude of officials to their duties, unwillingness to take the initiative <...>" [Karasik 2009: 242].

The core of the linguistic composition of the story is the pulsating ratio of the categories "the author's image" and "the narrator's (implicit) image", which is traditional for Russian literature of classical realism. However, the arsenal of visual means is expanding due to the reflection of active language processes in the narrative.

At the beginning of the story, attention is focused on the physical condition of Dvortsov, who woke up after "drinking". The physical and physiological sensations experienced by him are conveyed realistically thanks to the subjectivation of the narrative, while in the subsequent contexts, the drawn image increasingly evokes dislike and disgust in the reader, but not sympathy.

Let's turn to the story: "Dvortsov *sucked in the air with a huge long yawn* <...>" [Shargunov 2020]. The metonymy "breathe in with your mouth → breathe in with a yawn" is reinforced by the epithet "*huge*", which sets the parameter of spatial volume to the abstract noun "*yawn*". The author's generally neutral attitude is presented, but the element of zoomorphism (compare: whales draw in water, elephants draw in air) already prepares for a negative tonality, so the artistically enhanced and more embossed image is repeated in another compositional segment: "<...> *deep and wide yawn bit into the icy air of the car and he exhaled, grinning wetly, etching the past night out of himself*" [Shargunov 2020]. A beast appears in the mind of the reader, which bites (*bit*) into the victim's body (*the icy air of the car*), is satisfied with the taste of the prey (*exhaled, grinning wetly*) and snorts out (*etching out of itself*). "Yawn" here, in contrast to the previous context, is thought of as "bite" due to a semantic shift in the adjectives "*deep*" (cf.:

deep bite) and "wide" (cf.: open the mouth wide to bite). The predatory nature of the image is enhanced by the control "*biting into the air*", which contradicts the laws of physics (it is impossible to bite into a gaseous substance) and a grammatical shift in the junction "*grinning wetly*".

The degree of negative attitude towards the hero begins to grow with the introduction of an implicit narrator into the narrative, the signal of the appearance of which is the more frequent occasional word formation and the use of adverbs:

1) "I was thinking *about myself in the third person and deliriously*" [Shargunov 2020]. From the high-quality adjective "delirious", the common adverb is not formed. At first, the word is not perceived as "fresh", since the short form of the neuter is quite common (the state is delirious, the position is delirious). However, the function of the circumstance of the mode of action, reinforced by the semantic inconsistency of syntactically homogeneous members (*in the third person, delirious*), speaks of a morphological transposition. Moreover, cognitively "delirious," adjoining "*thought*," is closer to the word of the category of state. So it becomes possible to convey the stupidity of the physical and mental sensations of Dvortsov.

2) "*Swamp rot seethed in the stomach and sickenedly rose to the throat*" [Shargunov 2020]. A detailed metaphor, reinforced by the occasional use of "*nauseous*" (word of the category of state → adverb), disgusts the reader, activating the sense of smell (the smell of a swamp), vision (greenish heterogeneous viscous liquid) and physiological memory (dyspepsia, nausea, vomiting). There is a compaction of the language space of the text due to cognitive compression. Of course, it is possible to convey the state of the hero so "tangibly" without using direct or indirect speech, it is possible only through the introduction of an implicit narrator-hero.

As the compositional development of the text proceeds, the evaluative-speech parties of the author and the implicit narrator come closer and move away, but they necessarily coexist. Let us turn to contexts with syntactic inconsistency of sentence members.

1) "Dvortsov jumped up and threw himself with his whole body, *naked, barefoot*, with a big, trembling hand *clutching his wet mouth*, from which the swamp was *imperiously spilling*" [Shargunov 2020]. The semantics of heterogeneous definitions (*naked, barefoot* → no clothes/shoes, *big* → characteristic of the figure), separated from the subject-subject by two predicates, and the adverbial turnover translates an awkward image, the awkwardness of which is reinforced by the oxymoron-personification "*swamp spilling imperiously*". At the same time, the dominance of the "outside view" - the author's, is obvious.

2) "<...> In the absence of the coveted document, I felt *lightweight, demagnetized, almost an impostor* and settled down at the end, consoling that i was in time" [Shargunov 2020]. Here, the gradation is created by the growth of a feature expressed by different parts of speech (adjective/participle → noun). Such unconventional use of words in describing a state indicates a shift in the point of view into the sphere of the narrator, who cannot concentrate in any way, therefore he mixes characteristics-epithets and the actual nominations, trying to scan the state of health.

The satirical touches to the image of Dvortsov and other officials, created by the collision in one sentence of book and colloquial words, are indicators of the author's omniscience, objectification of the narrative, but the implicit narrator does not disappear altogether.

1) "<...> *holding out the belly, watching the warm swamps rise, and focusing on the deep navel*" [Shargunov 2020]. The zoomorphic image (with a contextual lexical repetition "swamp") is enhanced by stylistic contrast: "*focusing the gaze*", "*observing*" - "*exposing the belly*", "*navel*". The reader seems to be announcing a portrait of Dvortsov - external presentability and internal vileness. Modern social and artistic sketches about the life of some deputies and ministers - hypocritical, morally dissolute, vile - appear associatively. Here the general stylistic type of "official" comes close to the images personifying vulgarity from the stories of A.P. Chekhov.

2) "<...> the night *drunkenness revived in flashes: bawled, giggled, swallowed ... Pub, cognac, karaoke ...*" [Shargunov 2020]. The condemnation of the portrait of Dvortsov grows through "immersion" in his consciousness - subjectivation. First, in the grammatical basis of the sentence, the disapproving vernacular "*drunkenness*" (the sphere of the implicit narrator) and the only bookish "*revived*" (the author's sphere) collide, which raises disapproval to the level of sarcasm. Secondly, a number of homogeneous predicates call actions to such a degree of manifestation, which is characteristic of indecent behavior (*screaming - bawling, laughing - gagging, drinking - swallowing* (alcohol)). Third, the nominative proposals are like slides from the modern club life, the corrupting potential of which is known to everyone. Fourth, a kind of onomatopoeia (it is inappropriate to talk about alliteration or assonance) "go-go-glo-ko-ka" is incorporated into a number of homogeneous members and the nomination itself - this is how the "zoomorphic approach" is verbalized in the image of Dvortsov.

3) "<...> He will move upward like a *seasoned whale, daring them* by his very formidable, *unfriendly appearance*" [Shargunov 2020]. Here the author's satirical message is transmitted through an appeal to folk tonality: in the instrumental comparison, the archetype "whale" is defined by the

colloquial "mature"; the image expands and deepens with the folk-poetic "*daring with an unfriendly look.*"

4) "<...> Even less often dined in the dining room, *respecting* only desert *jelly*, *shimmering with a pearlescent glow*" [Shargunov 2020]. The tonality in this example is identical to the previous one: colloquial and everyday "*respecting jelly*" (compare: I respect borscht = love borscht) is suddenly combined with a description of something as if something treasured, intimate - "*shimmering with a pearlescent glow*" (for example, in fairy tales this is how a magic object can look like). The deliberate clash of the widespread book definition and nomination of a typical peasant dish, also associated with the tradition of commemorating the dead, gives the expected effect: the "official" type is actualized in the mind of the reader, and Dvortsov is more and more entrenched as a hypocrite who came into power from the common people and unreasonably boasts its current position.

5) "*A bald red deputy* jumped out of the entrance and pushed him in the stomach, *predatory paving the way*" [Shargunov 2020]. The epithet "*red*" in combination with the definition of "*bald*" gives a cognitive shift into the category of "fruit" (red apple), which refers to the usus "what kind of fruit are you?" or "that fruit". This is how the people say about a sly person who does not inspire confidence. As in a number of the examples discussed above, a random deputy is also depicted in a zoomorphic key, but aggressive, attacking: verbs denote rapid movement (colloquial "*jumped out*") and subject-object impact ("*pushed*"), decisiveness on the way to the goal is transmitted by the gerunds "*Paving*", reinforced by the occasional use of the adverb "*predatory*".

6) "The last hope went out, making him *defenseless and at the same time free, naked like a blade of grass or a worm*" [Shargunov 2020]. Unlike a colleague from the previous context, Dvortsov, having lost his ID, becomes pitiful and helpless, but the satirical tint in his image does not disappear. The author manages to achieve this effect in several ways: first, the trivial "*last hope has gone out*" actualizes the stereotyped situation; secondly, the antithesis "*defenseless* (not free from any kind of violence) - *free*" contradicts Dvortsov's self-awareness, whom it was the "cherished binding" that made the master of life; thirdly, the comparison "*naked as a blade of grass or a worm,*" although it has a folk-poetic connotation, sounds ordinary-mocking in this context.

7) "It all started with the loss of *one little thing, the secret spring of the wardrobe and life*, through this *red-skinned thing life was connected to this gray building*, and now I wanted to *sacrifice everything to this building ...*" [Shargunov 2020]. Here, in satirical tones, three planes of perception of

the world are given. At the level of being - the image of a helpless baby, in utero (red gives rise to an association with blood) connected by the umbilical cord (the only way of life) - a certificate - with the mother's body - the State Duma. At the level of spiritual searches (faith), a pagan sketch arises - worship ("*life was connected*") to the idol of power ("*gray building*", "*this building*"), which requires sacrifices to maintain and strengthen the connection. The social plane is verbalized through the syntactic homogeneity of lexically incompatible definitions - "*the spring of wardrobe and life*".

In the story "Ausweiss", contexts can be distinguished where the speech part is transmitted to an implicit narrator, the narration is subjectivized, the author's all-vision is replaced by immersion in the inner sensations and consciousness of Dvortsov.

1) "*Hot oblivion stuck together the eyelids, monotonously bubbling water rose to the chin. <...> the foam touched the nostrils*" [Shargunov 2020]. Syntactic parallelism gives monotony to the narrative rhythm, creates the effect of sinking into slumber, almost palpably conveying the state of a "hangover" deputy taking a bath. Reader's impressions are reinforced by a cross-cutting personification: subject-object actions "*glued together*" and "*touched*" with inanimate nouns (abstract and material), a common epithet with the meaning of speech production "*monotonously bubbling*". This is how an expanded metaphor is born in the linguistic picture of the text.

2) "<...> Immediately someone *shook the thundering bells of a headache*, he grabbed the sweating cold whiskey, with a groan *slowing down this dance*" [Shargunov 2020]. As in the previous example, immersion in the psychophysical state of Dvortsov again occurs through the transfer of the speech part to the implicit narrator. The description of the nature and dynamics of the headache (as at a doctor's appointment) is vividly represented by a detailed metaphor, which is created by the cognitive modulation of "areal dance to folk instruments, riotous fun, loud music (*rocked, thundering bells, dance*) → discomforting sounds and sensations in the head after "drunkenness" (*headache, cold whiskey, with a groan*)".

3) "And in that brightly lit hall, where he will while away the whole day, *you sit and do not know* what is behind the walls: *the sun or rain, sunset or dark* <...>" [Shargunov 2020]. Here subjectivation has a clear grammatical expression - a spontaneous transition from the third person (*to him*) to the second, which, in turn, can be easily transformed into the first (*you sit and don't know* - I sit and don't know). The effect of switching to the sphere of the implicit narrator is enhanced by contextual antonyms, which are also grammatically heterogeneous in the second pair: *sun* (clear weather) - *rain* (cloudy weather), *sunset* (there is sun, light) - *it got dark* (no sun, darkness).

4) "In this *reserved space*, one must be more sensitive, constantly changing the expression of the eyes: from *glassy-indifferent* for the *general mass* to *cunningly familiar* for *those who deserve it*" [Shargunov 2020]. The author's narration is subjectivized with the help of occasional composition: complex adjectives with parts of heterogeneous meaning convey to the reader the linguistic picture of the text from the position of an implicit narrator who divides the environment into his own - "*those who deserve it*" (book coloring) and strangers - "*the total mass*" (maximum generalized semantics). If "glass" (lost, incomprehensible, extremely tired) and "indifferent" have a common semantic thread in the lexical meaning - "indifferent", then "crafty" and "familiar" are united only by satirical effect.

5) "He put his hands on his stomach, soothing it by stroking and feeling as if it is a *big frying pan* in which *sunny eggs are fried and curled*" [Shargunov 2020]. A satisfactory comparison with a "*big frying pan*", which has a colloquial and everyday coloring, unfolds into a metaphor with a subordinate attribution. The stylistic level is fixed by the homogeneous predicates "*fried*" and "*squirt*". Even the epithet "*sunny*", which incorporates two characteristics - in color and in shape, does not possess book artistry, because it equates the imagery in the mind of Dvortsov (the implicit storyteller) with children's fantasy (compare: scrambled eggs are like the sun).

Thus, the subjectivation of the author's narration, characteristic of the prose of classical realism, in the texts of new realism is represented by an expanded range of methods of creation, reflecting active linguistic processes. In the work "Ausweiss", the switching of the speech spheres of either approaching or moving away images of the author and the implicit narrator occurs due to a change in the palette of pictorial and expressive means and semantic and grammatical shifts.

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**APPROVAL OF THE STAVROPOL CITY UNION OF COSSACKS ON  
FEBRUARY 2, 1991**

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**Abstract.** This article is devoted to the study of the specifics of the approval of the Stavropol City Union of Cossacks on February 2, 1991 and the revival of the Cossacks in the Stavropol Territory. The study examines the aspects that influenced the spread of the Cossack culture in the Stavropol Territory and in the NCFD (North Caucasus Federal District). The roles of V.V. Khodarev and the Stavropol House of Officers, who influenced the policy of restoring Cossack traditions in the region.

**Keywords:** Cossack culture, historical heritage, socio-cultural system, Cossack circle, military preparatory event, patriotism, cultural program.

**The relevance** of the topic lies in the need for a more detailed study of the essence of the Stavropol Cossacks at the turn of the century, as well as some of the features of Cossacks as a unique phenomenon of Russian society. Scientific interest is caused by reasons and preconditions, as well as circumstances of approval of Stavropol City Union of Cossacks on February 2, 1991 and implementation of policy of revival of Cossacks in the territory of Stavropol Territory.

**The practical significance** lies in the possibility of using the article's materials to cover the issues of history, culture, traditions and customs of the Stavropol Cossacks and Cossacks in general in order to promote historical heritage and knowledge about Cossacks as a unique Russian socio-cultural phenomenon. The Stavropol City Union of Cossacks as a special political formation is interesting from the position of drawing attention to the heritage of the Khopyor, Kuban and Stavropol Cossacks, as well

as for raising the level of integration of Russian and Cossack cultures at the present stage of social interaction.

The history of the revival of the Stavropol Cossacks began in the 1960s, when the consequences of the Great Patriotic War in the industrial sector were partially eliminated, and, the Communist Party began searching for new means to promote patriotism. Among such means were films on Cossack themes ("The Quiet Don," "Raised the virgin soil," "Dauria," "Father's House," "Stepan Razin," "Yemelyan Pugachev," etc.).

In the North Caucasus region, the interest in Cossacks was much stronger than in other regions. This was due, on the one hand, to its historical past, in which Cossacks played a great role, and, on the other hand, to the fact that some cities had already had Cossack-type organizations, which were only formally transformed in the pre-war period, while others were specially created and were formed in accordance with the traditions of the Cossack army later, in 1955-1960.

Stavropol Territory at this time developed actively, despite the damage caused during the war years. In 1960-1990, according to various estimates, there were up to several hundred Cossack organizations, but all of them operated within the framework of cultural and educational programs. The creation of official Cossack organizations in the Stavropol region was associated with the publication of the sixth issue of *Izvestia* of the CPSU in June 1989, which stated that Cossacks could exist in separate historical regions in the form of cultural and military training circles and organizations, subject to subordination to local authorities [2].

V.O. Galueva [1] writes that the key role in the integration of Cossack and, at first, Soviet and then Russian cultures was played by the Stavropol City Union of Cossacks. From that moment, the process of revival of Cossack culture and restoration of a whole social group, which did not have any privileges, but which had historical significance for the country, began. Surprisingly, in Stavropol Krai almost no confrontation between Cossack organizations and administrative authorities was noticed [1, p. 33].

I. Yu. Yurchenko [5] agrees with V. O. Galueva's position: in fact, since the establishment of the Stavropol City Union of Cossacks on February 2, 1991, Cossack organizations have been growing and have been mainly official in nature. However, according to Yurchenko, the main role in the creation of the Stavropol City Union belonged to Vitislav Vasil'evich Khodarev, a poet and hereditary Cossack, and to the Stavropol House of Officers [5, p. 95].

After the state policy has retreated from the imperative to limit the Cossacks, there appeared the primary dispositions, which allowed the rela-

tions between the Cossacks and local authorities to go to the stage of close cooperation and to consolidate in this state. But, it should be noted that the credit for this can be traced not only to the Cossacks, who were at the head of the largest organizations and who have shown personal initiative; to a greater extent, the beginning of cooperation was facilitated by the policy of the local authorities. It should also be taken into account that the General Secretary of the CPSU Central Committee himself did not impede in any way the implementation of the early programs for the restoration of the Cossacks [3, p. 137].

The role of V.V. Khodarev. Khodarev's role in the restoration of Stavropol Cossacks was immediate - he was the first to agree with the ataman of the Moscow community on the possibility of creating a single official organization in the Stavropol region, dedicated to Cossack issues. In turn, the Stavropol House of Officers supported the initiative of Khodarev financially and became a place for gathering of Cossack circles, who solved the problems of establishing a city union and organizing its activities.

The Stavropol City Cossacks Union was approved on February 2, 1991, in the building of the Stavropol House of Officers, where the first official city Cossack circle was held. The members of the Cossack Ataman of the city were elected, the Council of Elders and the Audit Commission were approved, and the Cossack Society had twelve members, the most respected and honorable of the city Cossacks, were elected to the Board. The first ataman of the Stavropol City Cossacks Union was V. Esaulov, the Chairman of the Council of Elders was G. Nefyodov, and the Chairman of the Revision Commission of the Cossacks Union was Y.Zvyagin (5, 6).

In 1991-1993, Cossacks were already organising mass cultural events and preparing young men for military service. Cultural activists, artists, writers, poets, teachers, university professors, civil servants and retired military personnel joined the city Cossack Union. A large part of the pensioners were the participants of the Great Patriotic War, who had fought in the Cossack cavalry units. Representatives of youth associations also joined the ranks of the local Cossacks at that time [6].

The main direction of work was initially the revival of Cossack customs, traditions of Cossack culture and patriotism among the population and especially among the Cossack youth of the city. With great enthusiasm Cossacks joined voluntary work with law enforcement agencies to maintain public order in the streets, checking passport regime, patrolling and duty on traffic police posts.

The city Union of Cossacks at one time was the initiator of the creation of children's and adults' Sunday schools under the city church parishes,

which are working to the present day and render significant assistance in the education of the younger generation. From the very first days, the Cossacks Union has considered and still considers important its military-patriotic and sports work among the youth, which is very relevant today and is necessary for the harmonious development of the individual.

### Conclusions

So, the preconditions of revival of the Stavropol Cossacks can be traced back to 1960-1980s, when the policy of the Communist Party towards the Cossacks was abruptly changed. Almost immediately films devoted to Cossack subjects began to be issued, and fiction and historical books about the Cossacks were published. At the same time, many official Cossack organizations were created in the Stavropol Territory, and V.V. Khodarev, with the support of the Moscow authorities, was a member of the Cossack Party. February 2, 1991, Khodarev, with the support of Moscow community and the Stavropol House of Officers approved the Stavropol City Union of Cossacks. Thanks to this, the culture of the region increased dramatically, and within a few years there were already more than 30 major Cossack associations in Stavropol Territory.

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**DIALOGUE BETWEEN THE PRC AND ASEAN: MODELS FOR THE DEVELOPMENT OF COOPERATION IN THE 2000-2020S**

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**Abstract.** The article provides a retrospective analysis of the development of the regulatory framework and diplomatic contacts between the PRC and ASEAN. The authors substantiate the main periods of the evolution of cooperation with the fixation of the specifics of the expansion and deepening of the directions of economic cooperation between the countries of Southeast Asia and Beijing. The work also formulates the most significant models for the development of relations. Particular emphasis is placed on the importance of the Chinese Belt and Road Initiative (BRI) in deepening economic cooperation in Southeast Asia. The authors come to the conclusion that the dynamics of the development of relations between the PRC and ASEAN has a consistent positive trend, and the BRI initiative has become a logical continuation and evidence of qualitative changes in economic relations in the region.

**Keywords:** PRC, ASEAN, BRI, regional integration, Southeast Asia, trade and economic ties, political relations.

The Association of Southeast Asian Nations (ASEAN) appeared in August 1967, but relations with "external" actors began to build only in 1976, in fact, ten years later, when the Association adopted new program documents on cooperation. The main basis of the Association's external relations is built on the key goals of ASEAN:

- implementation of projects for the development of regional cooperation with external technical support and assistance;
- promotion and support of trade and economic cooperation;

- strengthening of political ties with third countries and regional organizations (groups) [1].

These are the parameters that were set for building a system of "partnership", which led to the emergence of a new diplomatic model - "Dialogue Partners" ASEAN. The main expansion of the number of "dialogue partners" fell on the 1990s at the expense of India, China and Russia [2], which reflected the strategic desire of the Association countries "to move towards peace and security in a multipolar world and a new political reality" [3].

An important element in the development of relations was the adoption of other formats of cooperation in the second half of the 1990s, when the "partnership for dialogue" began to develop in the form of ASEAN + 1, and then ASEAN + 3 (Japan, Republic of Korea, PRC), ASEAN + 6 (Japan, Republic of Korea, China, India, Australia, New Zealand). Currently, there is a moratorium on granting the status of "dialogue partner" [4]. On the one hand, it does not allow the organization to expand, on the other hand, a certain "critical mass" and a variety of multilateral formats have been achieved, which affects the effectiveness of the dialogue.

For the People's Republic of China, 1991 became a key year, when a full-scale dialogue between ASEAN and the PRC officially began. Chinese Foreign Minister Qian Qichen was invited to the opening of the 24th ASEAN Ministerial Meeting in Kuala Lumpur. He attended the event as a guest invited by the Government of Malaysia. This step reflected the desire and ability of the organization to develop cooperation with China on the basis of "mutual benefit" [1].

As a result, after passing the necessary procedures, in July 1996, at the 29th meeting in Jakarta (Indonesia), China received the status of a "dialogue partner". The second important event in the development of cooperation between the PRC and ASEAN is the signing of the Joint Declaration of Heads of State and Government on Strategic Partnership for Peace and Development at the 7th ASEAN-China Summit in October 2003, which was held in Bali (Indonesia).

Between these events, the parties began a dialogue on security issues. As a nuclear power, China became the first "partner in dialogue" state with ASEAN to express its intention to support the creation of a nuclear-free zone in Southeast Asia and to sign a joint protocol on this matter. In November 2002, in Phnom Penh, the parties declared their support for a peaceful, good-neighborly and harmonious environment in the South China Sea (SCS), and also began developing a "Declaration of Conduct in the South China Sea." After several years and numerous consultations,

by 2011 ASEAN and the PRC adopted the document "Guidelines for the Application of the Declaration on the Code of Conduct in the SCS".

Socio-humanitarian contacts also developed. Thus, in November 2011, at the 14th ASEAN-China Summit held in Bali, the ASEAN-China Center was established, which opened in the same year in Beijing. At the moment, it performs representative and information and communication functions, works in the following areas: trade, investment, tourism, education and culture. In particular, an Internet site was created for online consultations [5]. On the basis of this organizational and legal structure, meetings of the Joint Council of the ASEAN-China Center are held.

Since the adoption of the Belt and Road Initiative, China began to look for opportunities for interaction in a broader context, in this case ASEAN was a multilateral organization with specific development objectives and covered all Southeast Asian countries.

In 2013, the 10th anniversary summit of the PRC and ASEAN was held, at which the parties noted the importance of the interaction format and signed a Joint Declaration for the 10th Summit following its results.

The parties also identified 11 main areas of cooperation that they agreed to develop, namely: agriculture, information technology and communication, human resource development, the development of the Mekong River Delta, investment, transport, culture, health, tourism and environmental protection.

In the same year, the joint ASEAN-China EXPO took place, which became evidence of the development of bilateral ties in the economic sphere. In addition to contacts at the state level, contacts and commercial structures were actively developing.

To develop the partnership, in November 2015, the parties signed an Action Plan for 2016-2020, which was the development of the tasks of the Joint Declaration.

Some of the results of the collaboration were published in 2018 by the ASEAN Research Institute [6]. Also some of the general works can be found in the publishing house of the Singapore Institute of International Affairs [7]. As one of the results, most of the authors agreed that Chinese investments are increasingly finding their addressees in South and Southeast Asia. Thus, according to the Asian Development Bank, the ASEAN countries will have to spend about 2.8 trillion dollars on infrastructure development alone from 2016 to 2030, in particular, due to "growing demands from urbanization, economic growth rates and new ASEAN initiatives"[7 p.1].

In addition, by the mid-2010s it became obvious that our own and even

regional initiatives would not be enough to meet the requirements of economic development. In this regard, oddly enough, critics of the Chinese BRI initiative also appeared, although it was China in this case that was ready to offer financial and other necessary assistance for the development of the region as a whole and for the modernization of national economies. The criticism was related to the fact that many already existing projects can be revised, while others, for some reason necessary for China, will be implemented. At the same time, a significant factor in the major Chinese initiative in the region was the reevaluation of all projects without exception in terms of scale, effect, cost and time periods of implementation. On the other hand, at the present stage, only elements of the BRI allow the ASEAN states to partially eliminate the problem of building and improving infrastructure.

As a result, the ASEAN member states, through the mouth of the Prime Minister of Singapore, Go Chok Tong, presiding over the organization, agreed to further consider two projects to create free trade zones - the Chinese (China-ASEAN) and the region-wide (East Asia FTA). On the other hand, the regional project was initially perceived as less promising [8]. This was due to the existing conflict situations and relations between the participating States.

The Belt And Road project in Southeast Asia united two parts - land (corridors across the Indochina Peninsula) and sea - from China through the South China Sea to the Indian Ocean and further to Europe. In March 2015, these directions were noted in the document "Vision for the joint construction of the Silk Road Economic Belt and the Maritime Silk Road in the XXI century" [9].

At the most recent ASEAN-China summit in November 2018, it was noted that "ASEAN is a key area and an essential participant in the Belt and Road Initiative" [10]. Joint projects implemented by ASEAN and China helped to integrate into the initiative.

Despite the fact that the countries of Southeast Asia adopted the Chinese initiative in different ways, almost everyone recognized that it would bring new opportunities to the region, including joining earlier and new projects, almost all of which were carried out with the direct participation of China or for its own benefits. BRI did not become a "revolution" in the dialogue between the PRC and ASEAN, but it was a logical continuation of the active development of economic cooperation in the region.

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## THE LIBERAL IDEAS IN DOMESTIC AND FOREIGN POLICY OF MODERN RUSSIA

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**Abstract.** The article reveals the importance of liberal ideas in Russia, the role such institutions as free elections and a multi-party parliament, as well as in the constitutional recognition of freedoms as the highest value. In the history of Russia, her development was largely determined by liberal ideas and practices that had a decisive influence on the direction of economic policy and politics. That principle was profoundly again realized after 1990, when liberalism and democracy became the basis for the transition to a market economy. The influence of the ideology of liberalism on the political system and foreign policy is also very essential for any country. However, today the position of liberalism is under threat in Russia, where it has been largely undermined from within the liberal camp by the selfish policies of the neoliberals on the one hand, and by the radicalization of a group of opposition liberals on the other.

**Key words:** liberalism, democracy, national interests, individual rights, world order, foreign policy, competition, Russia.

The coronavirus pandemic entails colossal geopolitical consequences associated primarily with the collapse of the globalization process, the final destruction of the unipolar world, which gives new impetus to a number of global and irreversible geopolitical changes in the already fundamentally shaken architecture of the existing world order. A new trend has emerged for a transition from a global open society to several isolated, more or less closed zones in a state of competition. Globalization, influenced by the self-isolation of states and entire continents, completes the “unifying” spiral and turns into its opposite.

In these conditions, a radical shift in the cultural focus of the United States and Europe should be predicted, including ideas about progress based on the self-proclaimed idea of US global leadership or on the postu-

lates of unrestrained technological development that have become dogma in European states. The United States themselves will clearly not be able to any longer (and probably will not want) to act as the only global arbiter and acquire a different status, while maintaining its focus on the struggle for spheres of influence and sources of raw materials [1].

At the moment, almost all over the world, the crisis of liberalism is clearly traced, as a result, international liberal institutions are losing their strength. This trend can be seen in the example of Great Britain, which left the European Union on January 31, 2020. Moreover, one can see a significant amount of contradictions between nation states and international liberal institutions and at other levels. This is a rejection of globalization, integration and capitalism, which until a few decades ago actively flourished and developed throughout the world.

Speaking about the liberal democracy in the world, it is necessary to mention that liberal democracy itself is such a socio-political structure of the state, in which the basis is the power that expresses the will of the majority and at the same time protects the rights of the minority. That is, this power gives the right to every citizen the right to private property, freedom of speech, religion, etc. The power itself in a liberal democracy is exercised through the people of a certain state, which expresses its needs through representatives from the dominant government, who in turn are elected for a certain period [2].

However, in the last 20-30 years, liberalism has reached the limit of its development. Therefore, even the attempts of the West to impose a certain model of democracy on the whole world were unable to slow down the decline of liberalism [3].

In these new circumstances Russia is confronting the aspirants for world domination, and the search for a balanced model of relations in all azimuths, searching for a new model of a just social reorganization of inside and the development of a multipolar settlement system.

In the EU, the right-wing parties have become stronger, criticizing migration and the European project itself. This applies in particular to Germany and France. The idea of multiculturalism is in crisis - its opponents find it easier to find arguments than its supporters. Britain voted for Brexit. In European countries, centrifugal tendencies have emerged with a new acuteness: for example, Catalan nationalism has acquired the status of a case of continental, if not global significance. In the United States, a stronghold of liberal values, a president has been in power for the past four years, for whom economic nationalism, self-focus is a perfectly acceptable idea. Thus, the United States and Europe, as well as the rest of

the world, should undertake comprehensive reforms to resolve the crisis of liberal democracy in order to avoid a rollback of liberalism to authoritarian regimes of a new type [4]. It is worth paying attention to reforms not only in the political sphere, but also in the economic and social.

The ideas of isolation, sovereignty, and a strong state have been reinforced by the pandemic. It is no coincidence that Putin, in his address to the Valdai Club discussions in 2020, first of all said that in a critical situation only a capable state can act effectively, that its role in modern world is important, and the time when it can be replaced by "other forms of social organization" has not yet arrived [5].

In the 2000s or early 10s, the declaration of democratic sovereignty seemed to be a challenge to the whole world, and above all to the West. But now the rhetoric of the Russian authorities and even the proclaimed values are less and less different from the rhetoric and values of leading politicians in Europe and the United States. The world can no longer be surprised or frightened by "sovereign democracy". Rather, Russians themselves will have to think about what kind of civil society is being prepared for them and how exactly it can grow in a system without developed democratic institutions.

In a broad context, in the emerging multipolar world order, Russia has a historic chance to strengthen itself as an independent civilization, which will receive a new volume of power precisely because of the sharp decline in the influence of the West and its internal geopolitical fragmentation. But at the same time it will become a challenge: before fully establishing itself in a multipolar world as one of the most influential and powerful poles, Russia will have to radically reconsider its domestic political paradigm, preserving its unity and re-establishing its zones of influence.

Today, when relations between Europe and Russia are so bad that some top Russian leaders are proposing to stop communicating with the European Union for a while, it is hard to believe that just recently Russia and the EU discussed the Strategic Partnership Agreement and the Partnership for Modernization. If we imagine Russia as a pendulum, then for several centuries it has been continuously swinging between two points - Europe and non-Europe, which is called Eurasia. This pendulum periodically lingers at one or another point and sets off again, because Russia's European choice has not become final and irrevocable. The last time the Russian pendulum was in its European phase was until 2012, and then it moved in the opposite direction.

In Russia, for two centuries there has been an endless dispute over national identity: who are Russians - Europeans or Eurasians? This dis-

cussion began with a dispute between the Westerners and the Slavophiles in the 19th century. It is impossible to imagine such disputes in Kazakhstan or Turkey. It seems that the concept of "Eurasia" and the definition of "Eurasian" are justified in two cases.

First, Eurasia as a geographical designation of the largest of the six continents, where 70% of the world's population live and where the states of both Europe and Asia are represented. Secondly, we can talk about Eurasian economic cooperation (integration, union), in which European and Asian states are involved. The concept of the Eurasianism originated in the Russian immigrant community back in the 1920s as a reaction to the nightmares of World War I and the defeat of pro-Western Russian liberals during the Bolsheviks Revolution in 1917-1918.

This Eurasianism concept tends to be revived every time when Russia cannot become an advanced power with modern standards and feels the need to justify its backwardness with the help of metaphysical theories. The growing wave of nostalgia in modern Russia for the former imperial greatness of the country both in the 20th century and in subsequent years suggests that Eurasianism is gaining momentum again [6].

From an applied point of view, the European vector is the imperative of Russia's modernization. The export-raw material model of the economy is a model of an authoritarian political system and a backward economy that puts an end to Russia's competitiveness in the modern world.

The historical views of liberals are inextricably linked with the concept of progress, evolutionary modernization development. The attitude of liberals to key periods in Russian history is closely related to their ideological choice [7]. In the Soviet Union, we again started to speak about liberalism during perestroika, when we failed to unite socialism with liberal ideas, to build at the time, "socialism with a human face". The next encounter with liberalism took place after the collapse of the Soviet Union, when those who called themselves liberals had already taken the power.

If one looks at the development trajectory of Russian liberalism over the past 25-30 years, you can see that at the beginning of 1990s, liberalism experienced a boom in popularity. But such a fashion for liberal ideas existed not so much due to the efforts made by the liberals themselves, as due to the disillusionment of society with the former illiberal and anti-market ideas. Such liberalism was not a conscious and meaningful choice of Russians, and therefore was rather superficial. In the 1990s, Russian liberalism experienced a split associated with the so-called the "dilemma of simultaneity" of the transformation process: the need to simultaneously carry out political reforms- building democratic institutions and economic

reforms - building a market economy. Part of the liberal camp advocated rapid authoritarian economic reforms, while the other part leaned towards democratic leftist ideas, defended democracy with a smoother construction of the market [8].

After the economic collapse of the pseudo-liberals in Russia, a line was established to develop a market economy with broad participation of the state in the economy. But the interests of the state were decisively added to this: the end of anti-popular privatization, the strengthening of the role of the state as a regulator of the economy, the fight against economic crimes.

At the beginning of the 21st century, the idea of public-private partnership took shape. The role of the state was emphasized as the owner or shareholder of a number of enterprises and large banks. At the same time, it was proclaimed that state property would gradually be privatized, with the exception of a small number of strategic enterprises associated mainly with defense, security and social life.

The idea of liberalism is that personal freedom is inseparable from private property. Therefore, it is necessary to preserve and protect private property at all costs. This is where the well-known question arises: if the right of the individual and the right of property are in conflict, and what should be protected in the first place? And in general, this question is insoluble for liberalism. In practice, it is always decided in favor of property rights. That is, for the sake of property rights, you can sacrifice some kind of civil, democratic freedoms, and there is always a split between liberals and radical democrats and socialists.

The second point in liberalism is that freedoms are realized not directly and not by the social lower classes themselves. The freedoms should be realized through institutions, through representations, through authorized competent people who will rule this democracy. These ideas, respectively, from here simultaneously derive both the principle of freedom and the principle of democracy, and the restriction of freedom and democracy in favor of the owners, in favor of the elite – that is the essence of liberalism [9].

But the Russian liberals have another peculiarity: they still have a very bad opinion of their own country. This is the specificity of Russian liberals, although recently it is not as unique as it used to be. Why Russian liberals treat their own country badly is understandable. Because this country seems to them is wrong: with the wrong population that doesn't share their ideas, with the wrong history. Therefore, the country needs to be corrected somehow, or even better, so that it itself realizes how wrong it is and corrects itself. It is clear that when you tell millions of people that they live in the wrong country and live in the wrong way, it is not surprising that later

these people will treat you without much enthusiasm.

The discussion about the compatibility of the liberal idea and the "welfare state" touches upon the foundations of a democratic social order. This also applies to local self-government (local communities), and NGOs, and business. Without the free functioning of these and other institutions, there can be no talk of any "social state" or, if you like, of any effective social policy. Everything is replaced by imitation and manipulation of public opinion (state propaganda), which we see in the example of modern Russia.

Therefore, the sequence of actions for the formation of policy, in the center of which the person and the quality of his life are placed, in our country should be as follows: 1) reform of public policy (return of the diversity of the leading media, competitive and fair elections at all levels, decentralization of power); 2) the development of local self-government, including those endowed with broad competencies in the field of social policy (in Russia there was a positive experience of zemstvos that did a lot in this area); 3) gaining independence by the judicial system, the return of the executive branch of power to its subordinate position in relation to the legislative power; 4) ensuring freedom for small and medium-sized businesses, liquidation of state corporations in the leading sectors of the Russian economy; 5) formation of a fair social policy on the basis of a social contract using the experience of the most successful countries of the common European space [10].

Liberalism has brought true equality to the people. All previous social systems were hierarchical, caste, in fact, caste. A liberal society is a society of citizens with equal rights. In a liberal society, every person endowed with abilities and desire, can reach the heights of public recognition, without endangering freedom and dignity of other people. Liberalism brought people have a lasting civil peace. There are no more restrictions and persecutions due to nationality, views or faith. So liberal principles of international relations are principles and relations that primarily protect freedom in international politics, human rights and freedoms, peaceful cooperation, as well as economic freedom - freedom of trade, investment, capital, services and movement of people. Accordingly, if international politics and institutions promote such comprehensive freedom and all-round cooperation, they are liberal, but if politics introduces barriers, prohibitions and restrictions, then such a policy is not liberal and leads to conflict.

The main goal of liberalism is peaceful development for the public good, which implies a peaceful cooperation of people in a spirit of tolerance and harmony. The future of peaceful human cooperation will depend on the spread of liberal democracies. In his turn, liberal democracies themselves

should show a successful example of overcoming their internal difficulties to be able to provide active helping liberal change around the world and Russian should be among these states.

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## ULTRASOUND CRITERIA FOR PREDICTING RIGHT VENTRICULAR SYSTOLIC DYSFUNCTION IN CHRONIC HEART FAILURE

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**Annotation.** Predicted values of the for right ventricle (RV) systolic dysfunction in heart failure are determined left ventricular ejection fraction  $\leq 50.1\%$  (sensitivity (S) 87.5%, specificity (Sp) 87.6%), pulmonary vascular resistance  $>1, 83$  units Wood (S 74.5%, Sp 68.0%), pulmonary artery systolic pressure  $>37.6$  mm Hg (S 70.8%, Sp 85.0%), right atrium end-systolic area  $>18.6$  cm<sup>2</sup> (S 76.6%, Sp 63.7%), RV mechanical dispersion index  $>50.29$  ms (S 78.1%, Sp 73.9%), RV global post systolic index  $>2.17\%$  (S 84,5%, Sp 69.9%), RV global longitudinal systolic strain GLS  $>-19.9\%$  (S 76.5%, Sp 88.5%), have high diagnostic reliability.

**Keywords.** Echocardiography, 2D Speckle Tracking, Right Ventricular Systolic Dysfunction, Chronic Heart Failure

Right ventricular (RV) dysfunction is formed in microvascular coronary pathology, obstructive epicardial coronary artery disease in chronic coronary syndrome, atrial fibrillation, comorbidity (obesity, diabetes mellitus, etc.), post capillary pulmonary hypertension, due to systolic ventricular interdependence [1–6]. The development of RV systolic dysfunction has a significant impact on the patient's prognosis. In patients with heart failure (HF) with preserved ejection fraction, there was an independent association with the prognosis for RV dysfunction ( $p < 0.001$ ), but not for left ventricular parameters [7]. For many years, when performing echocardiography, the assessment of the right chambers structural and functional characteristics was largely ignored [1]. It seems appropriate to develop a complex of prognostic criteria for RV systolic dysfunction based on echocardiography and 2D Speckle Tracking echocardiography (STE) criteria.

The aim of the study was to develop ultrasound criteria for predicting right ventricular systolic dysfunction in chronic heart failure (CHF).

### Materials and methods

In 2017-2020, a clinical and instrumental study of 246 patients aged 71 (64; 78) years was performed on the basis of the Healthcare Institution "1st City Clinical Hospital" in Minsk, and 129 patients aged 65 (58; 70) years on the basis of the State Institution "Minsk Scientific and Practical Center of Surgery, Transplantology and Hematology".

Study inclusion criteria: sinus rhythm, essential arterial hypertension (AH), chronic ischemic heart disease (IHD), CHF, patient informed consent. Exclusion criteria: primary mitral regurgitation, mitral stenosis, mitral valve repair or replacement, congenital heart defects, acute and chronic kidney and lung diseases.

Echocardiography was performed using ultrasound machine Vivid E9 (GE Healthcare, USA) and Siemens Acuson S1000 (Germany) according to the standard technique [8]. Left ventricular ejection fraction (LV EF) was calculated using the Simpson's biplane disc technique. RV systolic function was assessed by calculating the ejection fraction and changes in the RV area, the systolic amplitude of the displacement of the tricuspid annulus lateral part in systole to the apex in M-mode, and the systolic velocity of movement of the tricuspid annulus in the mode of tissue pulse-wave Doppler. The maximum systolic rate of tricuspid regurgitation was determined using continuous-wave Doppler. The systolic pressure in the pulmonary artery (SP PA), pulmonary vascular resistance (PVR) were calculated according to the standard method [8]. The end-systolic area of the right atrium (RA) was calculated in the four-chamber apical position.

Using the image post-processing program at the EchoPac PC workstation (GE Healthcare, USA), the calculations of the RV global longitudinal systolic strain (GLS), RV post systolic index, and the time to peak longitudinal strain of six RV segments were performed. The RV myocardial mechanical dispersion index was defined as the standard deviation of the mean time to peak longitudinal strain of six RV segments. The global post systolic RV index was calculated as the mean of the post systolic indexes of six RV segments.

The data of patients of "1st City Clinical Hospital" without CHF were included in the control group (n = 75), with CHF (n = 171) - in the main group. Data of patients of "Minsk Scientific and Practical Center of Surgery, transplantology and hematology" without CHF were combined into the control group (n = 49), with CHF with preserved LV EF (EF  $\geq$ 50%) - into the main group (n = 80).

A database was created in the Excel 2013 environment for statistical analysis. Its further statistical processing was carried out using the STA-

TISTICA 8.0 software package (Statsoft Inc., USA), the results were evaluated using nonparametric methods. The quantitative values of the studied signs were presented in the form of the median and interquartile range - Me (LQ; UQ). The Mann-Whitney U-test was used for quantitative comparison. Qualitative comparisons were made by constructing contingency tables using the Pearson method and maximum likelihood  $\chi^2$ . The Spearman correlation coefficient ( $r$ ) was calculated to assess the relationship between the considered characteristics. ROC analysis was used to develop ultrasound prognostic criteria. Differences were considered statistically significant at  $p < 0.05$ .

**Results**

The control and study groups of patients of the "1st City Clinical Hospital" were similar in age, body mass index (BMI), frequency and degree of AH, incidence of diabetes mellitus (DM) type 2, statistically significantly different in the incidence of chronic IHD, LV EF, the frequency of functional and hemodynamic abnormalities (Table 1).

**Table 1. Main characteristics of the control and main groups of patients**

Indicator	Control group	Main group	p
Age, years	67 (64; 75)	70 (64; 78)	0.28
BMI, kg/m <sup>2</sup>	30.9 (27.0; 36.1)	30.4 (27.1; 34.7)	0.47
AH, % (n)	100 (75)	100 (171)	-
AH, degree	2 (2; 3)	2 (2; 3)	0.92
DM type 2, % (n)	44 (33)	27.5 (47)	0.33
IHD, % (n)	65.3 (49)	95.9 (164)	<0.001
LV EF, %	61.6 (57.8; 68.7)	52.1 (44.4; 59.3)	<0.001
RV systolic dysfunction, % (n)	0 (0)	35.1 (60)	<0.001
PVR, units Wood	1.47 (1.04; 1.83)	2.19 (1.79; 3.06)	<0.001
SP PA, mm Hg	18.8 (10.6; 33.5)	47.0 (36.1; 58.5)	<0.001
RA area, cm <sup>2</sup>	16.28 (14.24; 18.83)	20.18 (18.37; 24.44)	<0.001

A relationship was revealed between RV systolic dysfunction and indicators characterizing structural and functional heart anomalies: with LVEF ( $r = -0.58$ ,  $p < 0.001$ ), PVR ( $r = 0.36$ ,  $p < 0.001$ ), SP PA ( $r = 0.43$ ,  $p < 0.001$ ), RA end-systolic area ( $r = 0.35$ ,  $p < 0.001$ ) according to the results of Spearman's correlation analysis. Prognostic values for RV systolic dysfunction predictive are LV EF  $\leq 50.1\%$ , PVR  $> 1.83$  units Wood, SP PA  $> 37.6$  mm Hg, RA end-systolic area  $> 18.6$  cm<sup>2</sup> [9] (table 2).

**Table 2. Results of checking the quality of prognostic values of the development of RV systolic dysfunction according to ROC analysis**

Predictive indicator	AUC (95% CI)	Youden index	Sensitivity, % (95% CI)	Specificity, % (95% CI)	+PV (95% CI)	-PV (95% CI)
LV EF ≤50.1%	0.92 (0.88-0.95)	0.75	87.5 (74.8-95.3)	87.6 (82.0-92.0)	99.3 (96.8-100.0)	27.0 (13.9-43.8)
PVR >1.83 units Wood	0.77 (0.71-0.82)	0.43	74.5 (59.7-86.1)	68.0 (60.6-74.8)	97.8 (94.2-99.4)	12.3 (5.3-23.1)
SP PA >37.6 mm Hg	0.82 (0.76-0.86)	0.56	70.8 (55.9-83.0)	85.0 (79.1-89.8)	98.9 (95.8-99.9)	13.3 (6.6-23.1)
RA area >18,6 cm <sup>2</sup>	0.75 (0.68-0.80)	0.40	76.6 (62.0-87.7)	63.7 (56.9-71.2)	97.6 (94.0-99.3)	12.5 (5.3-23.8)

CI – confidence interval

The control and main groups of patients of the State Institution "Minsk Scientific and Practical Center of Surgery, Transplantology and Hematology" are comparable in age, the incidence of AH and its degree, significantly different in the incidence of chronic IHD, indicators characterizing RV mechanical dispersion and dyssynergy (Table 3).

**Table 3. Main characteristics of patients**

Indicator	Control group	Main group	p
Age, years	65.0 (58.0; 71.0)	64.0 (56.0; 68.0)	0.12
AH, % (n)	98.0 (48)	100.0 (80)	0.08
AH, degree	2 [2; 2]	2 [2; 2]	0.47
IHD, % (n)	85.7 (42)	96.0 (77)	0,03
DM type 2, % (n)	12.2 (6)	26.3 (21)	0.06
RV GLS, %	-22.4 (-24.7; -20.3)	-19.3 (-21.6; -16.5)	<0.001
RV mechanical dispersion index, ms	41.37 (23.17; 60.65)	57.12 (41.43; 109.33)	0.001
RV global post systolic index, %	1.50 (0.17; 3.37)	4.67 (2.33; 12.83)	<0.001

Statistically significant relationships were established between CHF and RV mechanical dispersion index ( $r = 0.52$ ,  $p = 0.002$ ), RV global post systolic index ( $r = 0.50$ ,  $p < 0.001$ ), RV GLS ( $r = 0.52$ ,  $p < 0.001$ ). Values RV mechanical dispersion global index  $> 50.29$  ms, RV global post systolic RV index  $> 2.17\%$ , RV GLS  $> -19.9\%$  are predictive for CHF (Table 4).

**Table 4. Results of checking the quality of predictive criteria for CHF according to the ROC analysis**

Predictive indicator	AUC (95% CI)	Youden index	Sensitivity, % (95% CI)	Specificity, % (95% CI)	+PV (95% CI)	-PV (95% CI)
RV mechanical dispersion index >50.29 ms	0.81 (0.70-0.89)	0.52	78.1 (60.0-90.7)	73.9 (58.9-85.7)	98.3 (90.9-100.0)	15.1 (3.1-38.7)
RV global post systolic index >2.17%	0.86 (0.77-0.74)	0.54	84.5 (69.2-94.5)	69.9 (58.8-82.8)	98.1 (91.1-99.9)	18.1 (3.5-45.6)
RV GLS >-19.9%	0.87 (0.77-0.91)	0.65	76.5 (66.8-87.8)	88.5 (75.9-96.2)	99.1 (91.8-100.0)	15.3 (3.7-36.8)

Inhomogeneous RV regional contractility is forms the first with an increase in the requirements for the systolic function of the ventricle in CHF, and at the initial stage of remodeling can be recorded only with the use of STE. The longitudinal systolic function of the ventricles is largely determined by the contraction of the subendocardial layer of cardiomyocytes. A decrease of systolic longitudinal strain in patients with CHF may be associated with subendocardial fibrosis [10].

**Conclusion**

Predicted values of the for right ventricle (RV) systolic dysfunction in heart failure are determined left ventricular ejection fraction ≤50.1%, pulmonary vascular resistance >1, 83 units Wood, pulmonary artery systolic pressure >37.6 mm Hg, right atrium end-systolic area >18.6 cm<sup>2</sup>, RV mechanical dispersion index >50.29 ms, RV global post systolic index >2.17%, RV global longitudinal systolic strain GLS > -19.9%, have high diagnostic reliability.

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## THE ROLE OF BREATHING EXERCISES IN THE CORRECTION OF SOME SLEEP DISORDERS

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**Abstract.** This scientific article is devoted to the actual problem of obstructive sleep apnea syndrome. The article touches upon the available methods of apnea correction and their comparative effectiveness [3-11,15,16,22,25]. An original method of apnea treatment according to the Buteyko method was proposed, which was previously successfully used in the treatment of bronchial asthma. As a result of the research, an encouraging effect was obtained from the use of Buteyko breathing exercises [1,2].

**Keywords:** Buteyko method, breathing exercises, apnea, obstructive sleep apnea syndrome, sleep apnea.

### Introduction

In recent years, more and more people turn to polyclinic structures with non-specific complaints such as depression, absent-mindedness, daytime sleepiness, restless sleep that brings no relief. Most of these patients simultaneously had short-term (more than 10 seconds) periodic stops of breathing during sleep. This syndrome is called obstructive sleep apnea (OSA) [3-8]. OSA syndrome is a clinical disorder characterized by frequent respiratory stop during sleep, accompanied by loud snoring.

These pauses block the flow of oxygen into the human organism for 10-15-20 seconds and stop the removal of carbon dioxide from it. As a result, a short-term excitement occurs in the brain, which opens the airways and the breathing process is resumed. This process can occur many times throughout the night. In severe cases, apnea can reach to 2 minutes and take up to 30-40% of the total nighttime sleep [11,15,16,22,25]. OSA syndrome itself is not a common life-threatening condition, but it can cause se-

rious problems such as cardiovascular and cerebrovascular diseases. It is known that such patients are more likely to develop myocardial infarction, insult, various arrhythmias, secondary arterial hypertension [12-14,20,24]. In some cases of apnea (up to 10%), pulmonary hypertension develops with right ventricular failure, chronic hypercapnia and hypoxia associated with weakened nerve impulses in the respiratory muscles or general bronchial obstruction.

In addition, this group of patients has a 7-times increased risk of getting into a car accident.

In short, this disease greatly affects the "quality of life". Besides that, 18-year observations of many authors showed that people with severe apnea under other equal circumstances die three times more often than those who did not have this syndrome [17,18,23].

The "gold standard" of treatment for exacerbation of sleep apnea is the so-called Constant Positive Airway Pressure (CPAP), when therapy is performed by using of special devices that pump pressurized air into the airways and create constant positive pressure. A so-called "air tire" is created, which prevents collapse during sleep. However, this type of treatment is not physiological enough and causes discomfort for patients, so that only 46% of patients can withstand it. Another traditional method of treating this pathology involves surgery. It is aimed at eliminating or prevents for nasal breathing - polyps, anatomical defects (defect of the nasal septum). In addition, to reduce the intensity of sleep apnea, there are such recommendations for patients as exclusion of sedatives, androgens, alcohol, as well as weight loss, since obese people tolerate apnea worse than healthy people [9,10].

If the disease is mild, protriptyline or fluoxetine can be used. Despite the variety of modern, both pharmacological and non-pharmacological means of therapy, it is not possible to obtain a significant and persistent clinical effect in the treatment of this pathology [4, 19].

Thus, the apparent growth of the OSA syndrome and the unsatisfactory results of its treatment make the above mentioned pathology relevant and stimulate the search for new methods for correcting obstructive sleep apnea.

### **Material and method**

For the first time for the correction of obstructive sleep apnea syndrome, we have proposed to use the previously known method of Buteyko, which was suggested by the author for the treatment of bronchial asthma [1,2]. The method of Buteyko is a treatment program based on the princi-

ple of a gradual decrease in the depth of breathing to normal, which allows to normalize the respiratory homeostasis and successfully treat a large group of "deep breathing" diseases.

The ultimate goal of the entire technique is to maintain oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) in cells and tissues at normal levels.

The indications for this method are: the presence of hyperventilation (deep breathing, CO<sub>2</sub> deficiency in the pulmonary alveoli) and, as a result, the presence of symptoms of deep breathing. There are no absolute contraindications to the use of this method, however, there are relative contraindications, such as: mental diseases and defects, which do not allow the patient to understand that the cause of his disease is deep breathing and to master the breathing method [1].

### **Description of the technique**

- the patient is invited to sit on a chair and completely relax, raise his eyes slightly above the line of the eyes;
- to relax the diaphragm and breathe shallowly until a feeling of lack of air in the chest appears;
- to continue breathing movements at this rate and do not increase it for 10-14 minutes;
- if there is a desire to breathe in deeply, the patient can only slightly increase the depth of breathing, but in no case with the whole chest;
- with proper training, the patient will initially feel warmth throughout the body, then there will be a feeling of heat and an irresistible desire to breathe in deeper, it is only necessary to fight this by relaxing the diaphragm;
- it is necessary to leave training gradually, increasing the depth of breathing [26];

The duration of one training session, its frequency depends on the patient's condition and the degree of breathing disorder.

Our research involved 30 men with OSA syndrome aged 40-60 years. For the patients, classes were held on to master breathing exercises according to Buteyko. After they mastered this technique, they were monitored for six months. 12 (40%) patients did not manifest any significant improvement. At the same time, 18 (60%) patients had a good clinical effect - a decrease in apnea episodes by 30-40% per hour, as well as an improvement in health.

**Conclusion.** The results obtained in this research make it possible to note the effectiveness and simplicity of Buteyko breathing exercises for the treatment of obstructive sleep apnea syndrome and to recommend this breathing exercises for the correction of this syndrome.

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## HEAT AND SHOCK WAVE EFFECTS OF HIFU ON TISSUE-EQUIVALENT PHANTOM

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**Abstract.** Shock wave effects are considered as side effects, when great importance is attached to the thermal destruction of tissues after the use of focused high-intensity ultrasound (HIFU). Unfortunately, the role of non-stationary cavitation and shear stresses in the genesis of tissue destruction has not yet been sufficiently investigated. It served as the purpose of work on tissue-equivalent comparable biophantoms. The nature of HIFU-related changes in the structure of the PAG-3 biophantom indicates the significance of shock-wave shifts in the formation of a heat pattern and a destruction zone. The thermal effect is accompanied by the accumulation of thermal energy, the limitation of the thermal field, which predetermines the therapeutic efficiency of focused ultrasound exposure, however, it is important to take into account the role of mechanical effects in focused ultrasound therapy.

**Keywords:** high-intensity focused ultrasound, experiment, mechanical shifts, heat, thermal destruction, tissue-equivalent phantom, shock wave effect.

The spread of high-intensity focused ultrasonic vibrations in biotissues forms an acoustic field in the form of a combination of spatiotemporal thermal and mechanical characteristics of distributions with the formation of interference maximums in local areas due to superposition of acoustic waves generating shock waves and thermal effects. Obviously, the reaction of biotissues to such effects must be determined by the nature of energy distribution and the degree of manifestation of wave and nonlinear

effects in biological structures but, on the other hand, by the characteristics of a high-intensity focused acoustic field [4-5]. The energy of an ultrasonic wave propagating in a biological environment is partially converted into heat and partially transmitted to the substance mass in the form of mechanical impulses generating shear stresses and vortex microflows, whose speed gradients reach  $10^5 - 10^6 \text{ sec}^{-1}$  and this is more than enough to 'tear' the cell membranes.

However, mechanical tissue destruction is considered to be the side effect of HIFU, and the main therapeutic effect is associated with thermal ablation [1]. But in our opinion, shock-wave shifts, which are caused by the effects of acoustic cavitation, vortex microflows, stresses, along with the generation of a local thermal field, are also involved in the formation of destruction zones and are able to initiate sensitization of tumor cells to radiation, cytotoxic therapy. Therefore, it is important to work out the HIFU exposure modes on the simulator, which models changes in the mechanical properties of a pathological focus. The aim of this work was to study the distribution of thermal patterns, shock-wave effects on tissue-equivalent phantoms to assess the modes of HIFU exposure.

PAG3 phantom, based on polyacrylamide gel, is a model of great interest. The most obvious advantage of this phantom is the simplicity of preparation procedure, availability of components and comparability of acoustic properties with biological tissue.

In order to assess the thermal and mechanical effects associated with HIFU, a modular stand was used, which included an ultrasound diagnostic scanner "Angiodin-1" (firm "Bioss", Russian Federation), and an installation consisting of a transmitter, generating high-power ultrasound, a mobile module "Diather" for HIFU therapy. A flat-concave transducer H-148 S / N 010 (Sonic Concepts, Inc.) with a central oscillation frequency of 2.5 (minimum frequency 1.4 MHz), an active diameter of 64 mm, and a central hole of 20 mm was used as an ultrasonic generator. The emitter with a concave surface focused the ultrasound at a distance of about 7 mm. The ability to focus ultrasonic vibrations in a small focal region created conditions for a local high-energy impact with a radiation intensity of 8.2 kW/cm<sup>2</sup> and 23.3 kW/cm<sup>2</sup> in an averaged spot area of up to 0.6 mm without any significant thermal effects on the surrounding structures. For the passage of ultrasonic waves, degassed water was used, which was poured into a glass container, where the emitter and phantom were placed

Preliminarily, 4 thermal sensors were inserted into the PAG3 phantom in sealed polyvinyl chloride tubes of a digital multichannel thermograph (T-8). Thermal sensors were placed in the immediate vicinity of the lesion (up

to 1 mm), and then installed sequentially at distances of 5-10 mm, 15-25 mm, and 30-45 mm from the focal zone to assess the heat pattern.

In total, 22 tissue-equivalent PAG-3 phantoms were used. They were subjected to ultrasound exposure with an intensity of 8.2 kW / cm<sup>2</sup> and 23.3 kW / cm<sup>2</sup> in a focal spot with a diameter of up to 0.6 mm with various exposures, and the temperatures in different spatial zones of HIFU- induced heat pattern (Tables 1 and 2).

**Table 1.**  
**Temperature indicators at different distances from the thermal ablation zone at an intensity of 8.2 kW / cm<sup>2</sup> and a single HIFU exposure (x ± m)**

Exposure, mc	The internal temperature of the phantom according to the readings of the 1st thermal sensor located at a distance of up to 1 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 2nd thermal sensor, located at a distance of 5-10 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 3rd thermal sensor located at a distance of 15-25 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 4th thermal sensor, located at a distance of 30-45 mm from the thermal ablation zone
50	33,4±0,2 C <sup>o*</sup>	21,1±0,1 C <sup>o</sup>	20,6±0,08 C <sup>o</sup>	20,3±0,1 C <sup>o</sup>
100	40,5±0,3 C <sup>o*</sup>	23,9±0,08 **	22,1±0,1 C <sup>o**</sup>	20,5±0,2 C <sup>o</sup>
150	45,9±0,3 C <sup>o*</sup>	24,8±0,1*	22,1±0,1**	20,6±0,3
200	49,4±0,5 C <sup>o*</sup>	25,6±0,1 *	23,6±0,07**	20,6±0,4
250	54,4±0,5 C <sup>o*</sup>	26,2±0,07*	23,8±0,1*	20,9±0,2
300	60,1±0,3 C <sup>o*</sup>	26,9±0,08*	23,8±0,06*	21,0±0,1
350	66,7±0,6 C <sup>o*</sup>	27,5±0,07*	23,9±0,07*	21,1±0,1
400	70,4±0,6 C <sup>o*</sup>	28,0±0,1*	23,9±0,08*	21,4±0,07
450	74,6±0,2 C <sup>o*</sup>	28,4±0,08*	23,9±0,05*	21,5±0,08
500	80,6±0,62 C <sup>o*</sup>	28,8±0,07*	23,9±0,04*	21,7±0,3
1000	>103,3 C <sup>o*</sup>	30,2±0,09*	24,7±0,06*	22,8±0,4**
5000	>103,3 C <sup>o*</sup>	31,5±0,1*	24,8±0,06*	22,5±0,08**
8000	>103,3 C <sup>o*</sup>	33,8±0,1*	25,2±0,05*	22,5±0,04**

Note: \* - statistically significant differences (p <0.01) compared to the initial values. \*\* - statistically significant differences (p <0.05) compared to the initial values

With an exposure of 1000 ms and above, it was not possible to clearly measure the temperature in the focal zone due to the upper limit of the digital computer thermograph (T-8).

**Table 2.**  
**Temperature indicators of temperature sensors at different distances from the thermal ablation zone at an intensity of 23.3 kW / cm<sup>2</sup> by a single HIFU exposure**

No	Exposition	Temperature readings of the 1st temperature sensor	Temperature readings of the 2nd temperature sensor	Temperature readings of the 3rd temperature sensor	Temperature readings of the 4th temperature sensor
1	20 ms	31,5±0,2**	22,3±0,2	21,5±0,3	21,4±0,4
2	30 ms	39,1±0,3**	22,9±0,3	21,5±0,5	21,6±0,3
3	50 ms	47,7±0,3**	24,6±0,4*	22,7±0,4*	21,9±0,4
4	80 ms	58,1±0,5**	27,7±0,3*	23,6±0,5**	22,1±0,4
5	100 ms	71,5 ±0,6*	31,2±0,7**	25,5±0,4*	23,1±0,5

Note: \*\* - the statistically significant results (p <0.001) in comparison with the reference values \* - statistically significant results (p <0.05)

The findings indicate a proportional relationship between exposure and temperature in the near and perifocal zones. There was no significant increase in temperature at the perifocal zones which indicated that the focus zone was limited.

The temperature rise in the focal zone was investigated with multiple HIFU exposures to confirm the phenomenon of heat accumulation. The following mode of exposure to local zones of 11 phantoms was used: 5 HIFU "shots", intensity 8.2 kW / cm<sup>2</sup>, exposure 500 ms. The results are shown in Table 3. The phenomenon of heat accumulation in the focal zone can be explained by a change in the magnitude and rate of heat transfer arising from mechanical shifts of the phantom structures and the appearance of restrictions on the thermal conductivity of the investigated medium.

**Table 3.**  
**Temperature increase in the focal zone with 5 HIFU shots with an intensity of 8.2 kW/cm<sup>2</sup> and an exposure of 500 ms. (n = 11)**

No	Shots number	Focal zone temperature
1	1	64,3±0,3*
2	2	83,2±0,4*
3	3	98,8±0,6*
4	4	103,0±1,2*
5	5	>103

Note: \* - the statistically significant differences (p <0.01).

Thus, a feature of this mode of physical impact on the polyacrylamide hydrogel phantom was a slight temperature gradient in distant zones, which indicates a local increase in the temperature of the focus zone. Probably, the mechanical microflows create the conditions for restrict the heat flux, form the phenomenon of local thermal ablation, and also limit the heat transfer. This effect is comparable to the features of the formation of a heat pattern in biological tissues.

The temperature gradient in multiple HIFU shots at different exposures is of particular interest. The dynamics of changes in the temperature gradient was assessed depending on the number of HIFU shots with an intensity of 8.2 kW / cm<sup>2</sup> with exposures of 300 ms and 500 ms. The data obtained are presented in Tables 4, 5.

**Table 4.**  
**The dynamics of temperature changes in different zones of the phantom with an increase in the number of HIFU shots with an exposure of 300 ms**

№	Shots number	The internal temperature of the phantom according to the readings of the 1st thermal sensor located at a distance of up to 1 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 2nd thermal sensor located at a distance of 5-10 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 3rd thermal sensor located at a distance of 15-25 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 4th thermal sensor located at a distance of 30-45 mm from the thermal ablation zone
1.	5	73,1±0,3*	33,1±0,1*	23,7±0,1*	21,6±0,12
2	8	78,5±0,4*	34,1±0,08*	23,8±0,2*	21,8±0,1

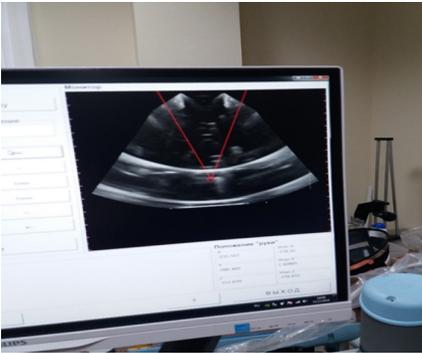
Note: \* - the statistically significant differences (p <0.01)

**Table 5.**  
**The dynamics of temperature changes in different zones of the phantom with an increase in the number of HIFU shots with an exposure of 500 ms**

№	Shots number	The internal temperature of the phantom according to the readings of the 1st thermal sensor located at a distance of up to 1 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 2nd thermal sensor located at a distance of 5-10 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 3rd thermal sensor located at a distance of 15-25 mm from the thermal ablation zone	The internal temperature of the phantom according to the readings of the 4th thermal sensor located at a distance of 30-45 mm from the thermal ablation zone
1.	5	88,5±0,3*	35,4±0,3*	24,0±0,07**	22,7±0,1
2	10	93,5±0,3*	37,6±0,2*	24,1±0,1**	22,8±0,21

Note: \* - the statistically significant differences ( $p < 0.01$ ); \*\* - the statistically significant differences ( $p < 0.05$ )

Thus, the use of a tissue-equivalent phantom PAG-3 with single and multiple HIFU exposure made it possible to observe the phenomena of thermal energy accumulation in the focus area and the limiting of heat flow propagation. Such features of the formation of the PAG-3 thermal pattern bring it closer to biological tissue structures in terms of its main characteristics. There are some differences in the architectonics of thermal ablation zones in polyacrylamide hydrogel at different exposures, with visual and ultrasound (Fig. 1) control.



**Fig. 1. Ultrasound image of the thermal ablation zone in the form of a cone in a phantom (PAG-3) at a radiation intensity of 8.2 kW / cm<sup>2</sup> averaged focus up to 0.6 mm and exposure of 500 ms.**



**Ultrasonic picture of the thermal ablation zone (round shape) of the phantom (PAG-3) at a radiation intensity of 8.2 kW / cm<sup>2</sup> averaged focus up to 0.6 mm and an exposure of 1000 ms.**

The nature of changes in the structure of the tissue-equivalent phantom PAG-3 in the focus zone indicates acoustic cavitation and mechanical shock-wave shifts that form a thermal pattern. This thermal pattern is characterized by the following phenomena: accumulation of thermal energy, limited heat propagation, which determines the therapeutic effectiveness of HIFU exposure, and the role of mechanical effects in focused ultrasound therapy.

The results suggest the role of shock-wave shifts in tissue-equivalent phantoms with HIFU-exposure, which are involved in the formation of a thermal pattern and in the distribution of temperature modes in the perifocal zones.

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## CIRCADIAN RHYTHM OF DIASTOLIC BLOOD PRESSURE DURING TOXEMIA OF BURN DISEASE IN ADULTS

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**Abstract.** On the first day of the period of toxemia of the burn disease, the level of mesor of the circadian rhythm DBP did not differ from the norm. However, at the age of  $71.3 \pm 7.0$  years, the peripheral vascular tone significantly differed in instability from the indicators of patients of group 1, then increasing by 2.5, 27 days, then decreasing by 25 days. The periods of fluctuations in the mesor of the circadian rhythm of DBP were 6-7 days. A significantly more pronounced increase in the amplitude and range of oscillations of the mesor of the circadian rhythm was found in patients of group 3. In young patients, adaptation was realized mainly through the inversion of the circadian rhythm of DBP during 47% of the period of toxemia. That is, in the specified period of time at night, an increased tone of peripheral vessels prevailed, which suggests the advisability of vasoactive correction to prevent the consequences of oxygen starvation of tissues.

**Keywords:** circadian rhythm of diastolic blood pressure, period of toxemia in adult burn disease

**Relevance.** Normally, in a healthy person, diastolic pressure is in the range of 60–90 mmHg. The change in blood pressure is influenced by age. An increase in diastolic pressure in the elderly is especially dangerous, since their blood vessels are significantly altered (atherosclerotic plaques, decreased wall elasticity) and the risk of complications of arterial hypertension is higher. An increase in diastolic blood pressure above normal indicates a pathological state of the arterial blood vessels. This type of hypertension in an isolated form (the level of systolic pressure remains within the normal range) is quite rare, on average in 6 - 9% of all cases of high blood pressure. Today arterial hypertension (combined, diastolic) is increasingly common in young people [1-5].

Due to the lack of information on the differentiated assessment of the

severity of the condition, the characteristics of the stress reaction of hemodynamics in different age periods, we considered it necessary to study the data of monitoring diastolic blood pressure, to determine the relationship with the systemic inflammatory response, especially inherent in age groups, including old age in order to increase the effectiveness of treatment, optimization of the forecast.

**Purpose of the work.** To study the circadian rhythm of diastolic blood pressure during the period of toxemia of burn disease in adults.

**Material and research methods.** The results of monitoring the diastolic blood pressure (DBP) index of 25 patients admitted to the Department of Combustiology of the Republican Scientific Center of Emergency Medicine due to burn injury were studied. After recovery from shock, anti-inflammatory, antibacterial, infusion therapy, correction of protein and water-electrolyte balance disorders, early surgical, delayed necrectomy, additional parenteral nutrition, syndromic, symptomatic therapy were performed. The systemic inflammatory response was studied by monitoring the hourly continuous recording of body temperature in patients with severe thermal burns in three age groups - group 1, 12 patients aged 20-40 years, group 2 - 7 patients aged 41-60 years, group 3, 6 patients - 61 -78 years old. The division into groups was dictated by the well-known characteristics inherent in each age group, described in detail in the literature.

**Table 1**  
**Characteristics of patients (25)**

	Age, years	Height, cm	Weight, kg	Total burn area,%	Burn of 3B grade	IF, units	Day in the ICU
Group 1	27,3±5,6	174,9±5,7	73,0±22,2	59,4±13,5	21,3±13,3	119,4±38,4	22,4±14,6
Group 2	50,7±7,1	165,8±6,3	73,8±14,3	54,3±16,5	11,9±8,9	92,5±20,8	13,3±2,4
Group 3	71,3±7,0	165,3±8,4	73,3±8,9	40,8±5,8	21,7±6,7	86,7±12,8	18,8±9,5

As can be seen from Table 1, the age groups were significantly different and averaged  $27.3 \pm 5.6$  years in group 1,  $50.7 \pm 7.1$  years in the second, and  $71.3 \pm 7.0$  years in the third. The total area and area of deep skin burn lesions did not differ significantly between the groups. The highest IF index was revealed in group 1, which determined the longest duration of intensive therapy in ICU conditions in the youngest group. Thus, the most pronounced burns in terms of area and depth were found in patients in group 1.

**Table 2**  
**Dynamics of the mesor of the circadian rhythm of DBP during the period of toxemia in adults, mm. Hg**

Days	Group 1	Group 2	Group 3
1	72,1±1,7	74,2±3,4	74,4±2,4
2	68,6±1,2	75,6±1,2	76,6±3,5*
3	72,7±1,5	75,5±1,8	73,3±2,2
4	71,0±1,0	74,6±1,7	74,1±2,7
5	71,4±1,3	74,7±1,4	76,9±2,4*
6	73,0±1,1	74,6±2,2	71,4±1,9
7	75,5±1,4	70,2±1,1	72,4±3,6
8	73,0±1,9	72,7±1,4	73,4±1,6
9	74,7±1,4	69,8±1,6	74,9±2,5
10	72,2±1,4	74,6±1,6	75,2±2,6
11	70,6±1,9	71,3±3,3	68,0±3,8
12	71,9±1,7	71,0±1,5	67,8±5,5
13	74,7±1,8		68,0±3,3
14	70,9±1,9		72,9±3,0
15	75,0±1,9		70,7±3,9
16	69,4±2,3		67,2±2,5
17	68,2±2,2		72,0±2,7
18	74,0±2,1		67,8±3,2
19	73,1±1,4		67,5±3,5
20	73,0±2,1		69,0±3,8
21	73,9±2,2		70,5±4,2
22	66,9±1,8		72,1±3,2
23	71,8±2,9		68,2±2,7
24	70,8±1,9		77,0±6,5
25	74,5±1,3		64,2±6,7*
26	73,0±2,6		68,5±8,0
27	72,6±2,0		81,5±6,0*
28	70,8±2,2		77,1±3,9
29	68,3±2,0		71,6±7,4
30	72,4±1,7		81,5±4,6

\*- reliable relative to the indicator in group 1

On day 1, the level of the mesor of the circadian rhythm of DBP did not differ from the age norm in all patients. However, in the process of monitoring, a reliably significant difference in the mesor of the circadian rhythm DBP in group 3 relative to the data of group 1 was revealed on day

2 (more by 11%,  $p < 0.05$ ), by 5 - by 7% ( $p < 0.05$ ), by day 25 is 13% lower ( $p < 0.05$ ), on day 27 higher (12%,  $p < 0.05$ ). The results obtained allow us to assert that the tone of peripheral vessels in persons over 61 years old differed in instability from the indicators of patients in group 1, either increasing by 2.5, 27 days, then decreasing by 25 days (tab. 2). The periods of fluctuations in the mesor of the circadian rhythm of DBP were 6-7 days. Moreover, the most significant changes were observed in group 3 (fig. 1).

Dynamics of the mesor of the circadian rhythm of DBP during toxemia in adults

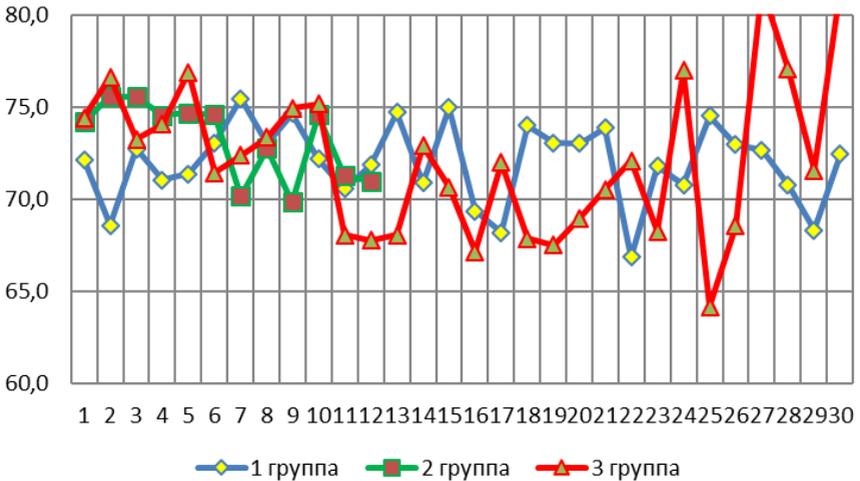


Fig.1

A significantly more pronounced increase in the amplitude and range of oscillations of the mesor of the circadian rhythm was found in patients of group 3 (fig. 2). Moreover, the most significant increase in the amplitude and range of daily fluctuations in DBP was detected in the later periods of the toxemia period on days 12, 24-27.29 of burn disease in patients aged  $71.3 \pm 7.0$  years (fig. 3)

Thus, in the later terms of the period of toxemia with a total burn area of  $40.8 \pm 5.8\%$ , grade 3B,  $21.7 \pm 6.7\%$ . IF  $86.7 \pm 12.8$  units, the treatment of concomitant diseases that aggravate the course of burn disease in persons of group 3 becomes more important, since hypertension at the time of diastole (relaxation) of the heart is usually caused by narrowing of the arterial walls (spasm of arterial vessels), which increase the risk of tissue hypoxia and associated complications.

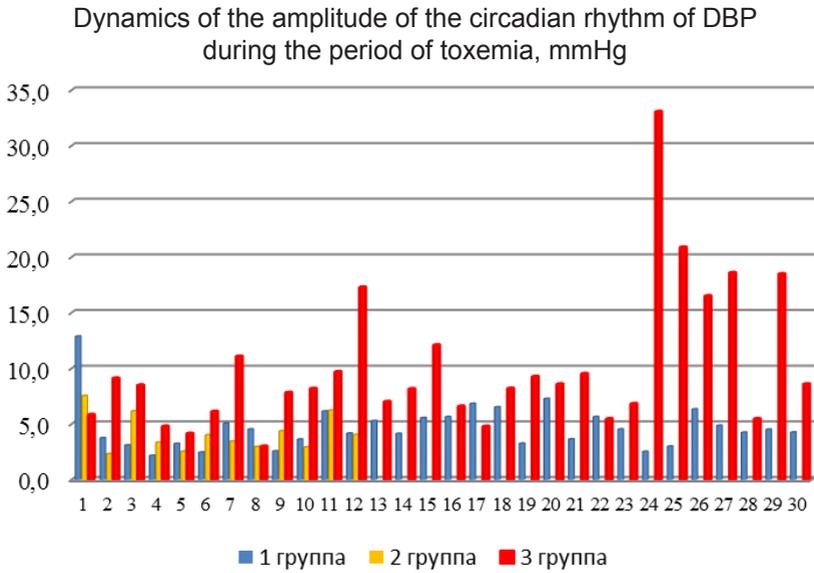


Fig.2

Dynamics of the diurnal range of the circadian rhythm of DBP, mmHg

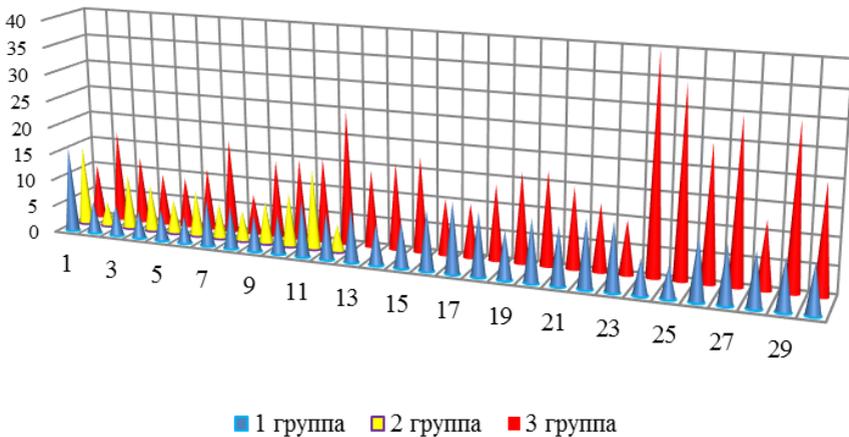
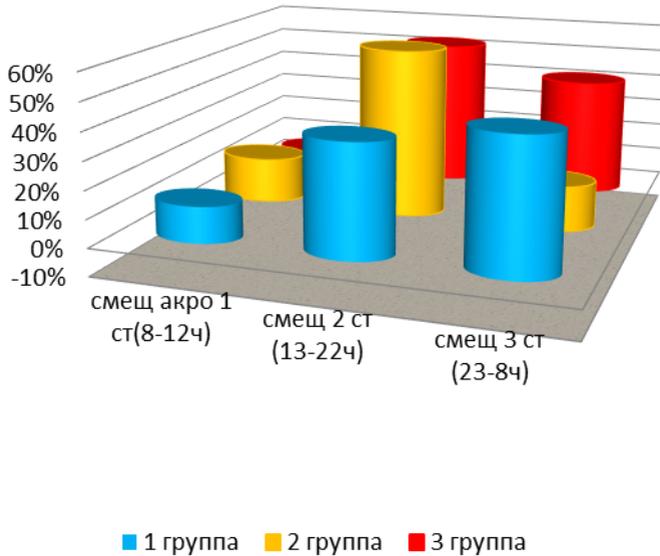


Fig.3

The severity and duration of displacements of the acrophase of the circadian rhythm of DBP during the period of toxemia in adults



**Fig.4**

As shown in fig. 4, in group 1 for the entire period of toxemia, the 3rd degree of displacement of the acrophase of the circadian rhythm DBP to the night hours (47%) prevailed, that is, the inversion of the circadian rhythm of DBP and the shift within the daytime (40%). The revealed difference in the circadian rhythm of DBP from other age groups indicates a comparatively more active participation of sympathetic activity, accompanied by an increase in peripheral vascular tone. That is, in young patients, adaptation during the period of toxemia is realized mainly through the inversion of the circadian rhythm DBP for 47% of the time, that is, during the indicated period of time, an increased tone of peripheral vessels prevails, which has an adverse effect on tissue oxygenation, which suggests the advisability of vasodilator therapy with the aim of correction and prevention of oxygen starvation of peripheral tissues. In group 2, a moderate shift in the acrophase peak within the daytime prevailed over 64% of the duration of intensive therapy. It is possible that the result obtained is due to the comparatively smaller area of grade 3B burns of  $11.9 \pm 8.9\%$ , respec-

tively, less pronounced stress hypersympathotonic reaction to burn injury than in group 1. In group 3, a 3B degree burn of  $21.7 \pm 6.7\%$  of the skin surface caused the predominance of the duration of the acrophase shift in the daytime (degree 2). Perhaps the lack of inversion of the DBP circadian rhythm in the oldest age group can be understood as a limitation of the adaptive capabilities of persons over 61 years old due to a relatively less pronounced compensatory reaction of the pituitary-adrenal system due to a more rapid depletion of the cellular energy resources of the sympathoadrenal system, smooth muscles of the walls of blood vessels of the circulatory system and other systems.

Correlations between temperature and DBP and SBP in the circadian rhythm during the period of toxemia

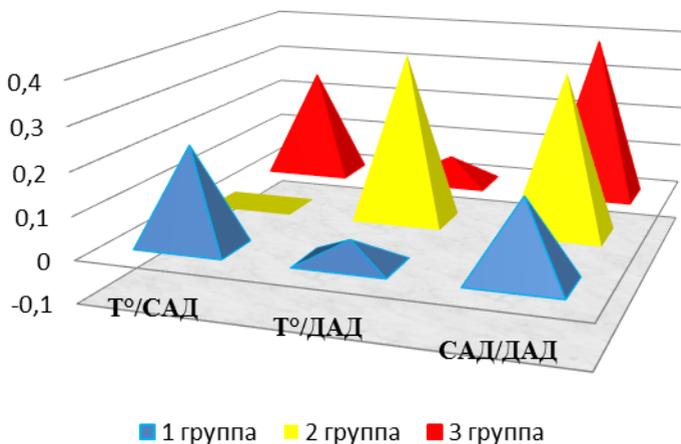


Fig.5

Correlation relationships between temperature and DBP and SBP in the circadian rhythm (fig. 5) during the period of toxemia revealed a weak correlation between SBP levels depending on the mesor of the circadian rhythm of temperature in groups 1 (0.233) and 3 (0.2605), somewhat more pronounced were the relationship of the DBP mesor with the severity of the inflammatory response in group 2 (0.3977) in conditions of positive correlations of SBP and DBP in the 1st group (0.1869), in the second (0.3776), in the third (0.393).

**Conclusions.** On the first day, the level of the mesor of the circadian

rhythm DBP did not differ from the age norm in all patients. At the age of  $71.3 \pm 7.0$  years, the peripheral vascular tone significantly differed in instability from the indicators of patients of group 1, then increasing by 2.5, 27 days, then decreasing by 25 days. The periods of fluctuations in the mesor of the circadian rhythm of DBP were 6-7 days. A significantly more pronounced increase in the amplitude and range of oscillations of the mesor of the circadian rhythm was found in patients of group 3.

In young patients, for 47% of the period of toxemia at night, an increased tone of peripheral vessels prevailed, which suggests the advisability of vasoactive correction to prevent the consequences of oxygen starvation of peripheral tissues.

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**PREDICTORS OF THE FORMATION OF EMOTIONAL DISORDERS  
AND A DECREASE IN THE QUALITY OF LIFE OF OVERWEIGHT  
PATIENTS OF EARLY REPRODUCTIVE AGE**

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**Abstract.** In recent years, the relationship between psychopathological and neuroendocrine disorders in overweight patients has been actively studied. The main group consisted of 20 overweight patients aged 15 to 20 years, and 10 patients of the same age made up the comparison group. A study of the indicators of the BDI and SF-36 questionnaires components of the mental and physical quality of life in women in the main and control groups was carried out. Comparison with the data of the hormonal and metabolic profile is made.

**Keywords:** depression, quality of life, emotional well-being, overweight, early reproductive age, metabolic disorders, insulin resistance, hyperandrogenism, leptin, energy homeostasis.

**Introduction**

Overweight and obesity are acquiring acute social global significance due to the increasing prevalence in recent years and the dire consequences. According to the World Health Organization (WHO) (2016), the number of obese people worldwide has more than doubled, among them more

than 30% are women [1, 2].

It was found that in addition to social maladjustment and psychoemotional states that negatively affect the quality of life of patients, overweight is associated with the risk of type 2 diabetes mellitus, cardiovascular and cerebrovascular diseases, gynecological disorders and infertility, certain forms of cancer, being the fifth in importance. a risk factor for death in the world [3, 4].

Epidemiological studies indicate a vicious circle of metabolic and affective disorders in the form of positive feedback [5]. It has been shown that the prevalence of depression in obese individuals is two times higher than the general population frequency, and reaches 30% [6]. In turn, it has been demonstrated that the presence of depression increases the risk of developing obesity in the future. This indicates the presence of a pathogenetic relationship between these conditions: affective disorders and overweight [7]. An increase in the concentration of neuropeptide Y under physical and mental stress was found, which enhances the response of food consumption to stress seizing [8].

**The purpose of the work** is a study of the indicators of the BDI and SF-36 questionnaires components of the mental and physical quality of life in women in the main and control groups. Comparison with hormonal and metabolic profiles.

### **Materials and methods**

The main group consisted of 20 overweight patients aged 15 to 20 years, and 10 patients of the same age made up the comparison group. A study of the indicators of the BDI questionnaire and SF-36 components of the mental and physical quality of life in women in the main and control groups was carried out. Comparison with the data of the hormonal and metabolic profile is made.

### **Results and discussion**

A higher score for depressive disorders in overweight patients was shown in comparison with the control group according to the BDI questionnaire ( $12.9 \pm 5.5$  versus  $2.8 \pm 3.1$ ,  $p = 0.0002$ ). There was a decrease in quality of life indicators in overweight patients in comparison with the control group according to the SF-36 questionnaire for the mental health component ( $41.2 \pm 6.3$  vs.  $51.9 \pm 4.2$ ;  $p = 0.009$ ), an indicator of role functioning due to mental state ( $38.7 \pm 12.5$  versus  $51.9 \pm 4.2$ ;  $p = 0.028$ ). Using logistic regression, it was shown that the level of insulin ( $p = 0.009$ ), leptin ( $p = 0.020$ ), and the index of free androgens ( $p = 0.037$ ) significantly affect the development of depressive symptoms. Statistical processing of

the obtained data was carried out in the environment of the "Excel" package by the "Microsoft" company and using the "Statistica 8" software by the "Statsoft" company. Methods of descriptive analysis were used for the parametric distribution of the variable (data presented as mean, standard deviation, t-test) and nonparametric distribution (data presented as median, 25-75 percentiles, Mann-Whitney test).

The compared groups differed significantly in terms of body mass index (20.2 kg/m<sup>2</sup> (18.4-21.8) in the control group, versus 29.2 kg/m<sup>2</sup> (26.6-34.4) in the overweight group, p <0.0001), the ratio of waist circumference to thigh circumference (0.72 (0.68-0.76) in the control group, versus 0.86 (0.81-0.90) in the overweight group, p <0.0001), which indicates an increased risk of atherosclerotic changes in overweight patients at an early reproductive age.

Overweight patients differed from the group of healthy women in a significantly higher content of leukocytes in peripheral blood (5.9 10<sup>9</sup>/l (5.1-7.5) in the control group versus 7.9 10<sup>9</sup>/l (6.9-8, 0) in the overweight group, p = 0.0235, hereinafter the Mann-Whitney test), platelets (280.0 10<sup>9</sup>/l (242-328) versus 321.0 10<sup>9</sup>/l (281-331.0), p = 0.0012), ESR (3.5 (2.0-4.0) versus 5.0 (4.0-10.0), p = 0.0036), which may indicate pro-inflammatory and procoagulant activation.

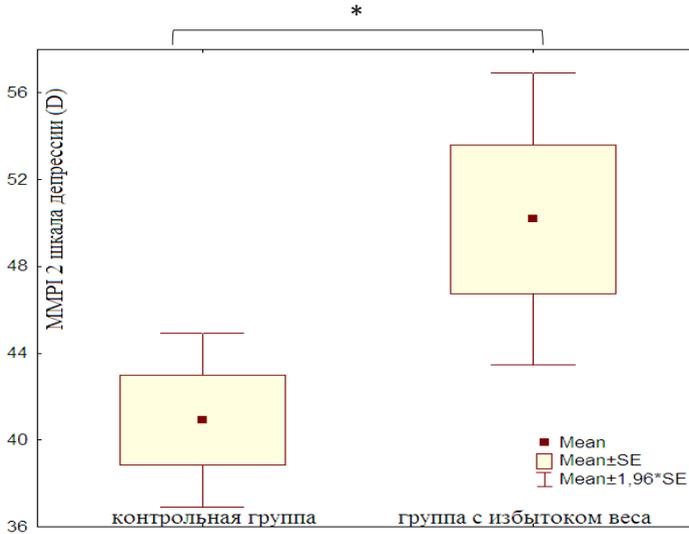
The lipid profile of the blood of overweight patients in comparison with the control group was characterized, as was expected, by dyslipidemia according to an increased triglyceride level (p = 0.0237) and an atherogenic coefficient (p = 0.0010), a decreased HDL content (p = 0.0459), higher values of HOMA-IR (p = 0.0026) and fasting glucose (p = 0.0021), which are summarized in table 1.

**Table 1**  
**Indicators of blood lipid profile and insulin in overweight patients and control groups**

Indicator	overweight group	control group	p-level
Cholesterol**, mmol/l	4,0 (3,7-4,9)	4,1 (3,5-4,8)	0,4879
TG*, mmol/l	1,2±0,5	0,8±0,6	0,0237
HDL*, mmol/l	1,4±0,5	1,7±0,4	0,0459
LDL*, mmol/l	2,4±0,8	2,0±0,7	0,1802
AC*	2,8±1,3	1,7±0,7	0,0010
Glucose*, mmol/l	5,2±0,5	4,9±0,4	0,0021
Insulin*, µIU/ml	30,1±26,6	10,5±3,3	0,0010
NOMA-IR**	5,4 (3,8-7,6)	2,2 (1,9-2,5)	0,0026
IVO**	1,6 (1,1-2,0)	0,6 (0,4-1,0)	0,0105

According to the questionnaire of the quality of life, overweight patients differed from the group of healthy women in terms of the overall score for the mental health component (MHtotal) ( $41.2 \pm 6.3$  vs.  $51.9 \pm 4.2$ ;  $p = 0.009$ ). In addition, overweight patients in comparison with the group of healthy women also had significantly lower scores for the mental health component (MH) ( $38.7 \pm 12.5$  versus  $51.9 \pm 4.2$ ;  $p = 0.028$ ), which indicates about mental ill-being.

When analyzing the data of the MMPI test, it was revealed that overweight patients were characterized by significantly higher scores on all the studied scales: hypochondria and somatization of anxiety (1 scale  $60.3 \pm 12.5$  versus  $52.2 \pm 9.2$   $p = 0, 04$ ), depression (1 scale  $50.2 \pm 9.7$  versus  $40.9 \pm 12.14$   $p = 0.04$ , fig. 2) and hysteria/emotivity (3 scale  $60.7 \pm 10.3$  versus  $50.7 \pm 10.8$   $p = 0.02$ ) in comparison with the control group.



The data obtained confirm the relationship of metabolic disorders and excess weight with neuropsychiatric disorders, which may be due to a variety of neuroendocrine factors, both paracrine and autocrine effects of sex steroids, adipocytokines, neuropeptides on the central nervous system (CNS), the formation of mood, behavior, including food, emotional accompaniment and response. Depression can lead to the progression of feelings of anxiety and loneliness, while distress and emotional seizure can lead to positive short-term mood changes, but in the long term - to

obesity [16]. Our data are consistent with the results of studies on the relationship between the severity of depressive disorders and the level of leptin in obesity [16, 18]. The underlying mechanisms include the effect of leptin on basal and postprandial dopamine secretion, satiety and mood formation.

Correlation analysis shows a positive relationship between the overall total score of the Beck depression scale and testosterone levels ( $r = 0.56$ ;  $p < 0.05$ ), free androgen index ( $r = 0.62$ ;  $p < 0.05$ ), androstenedione ( $r = 0.58$ ;  $p < 0.05$ ). The data of logistic regression confirmed that the level of insulin ( $p = 0.009$ ), leptin ( $p = 0.020$ ), and the index of free androgens ( $p = 0.037$ ) significantly affect the development of depressive symptoms.

Thus, it was confirmed that overweight in patients at an early reproductive age is associated with a decrease in the QoL of patients both in physical and mental health components, which affects social and role functioning, expressed in psychoemotional disorders and social maladjustment. It has been shown that overweight patients are characterized by higher scores for depressive symptoms. What, in addition, is interrelated with the severity of the objective characteristics of the presence of metabolic disorders, insulin resistance, hormonal disorders and hyperandrogenism.

### **Conclusion**

Considering the steady increase in the incidence of obesity, the high medical and social significance, the lack of clear algorithms for the early detection and correction of interrelated affective disorders, it is advisable to identify risk factors, identify the features of the manifestation and course of the disease until the stage of development of irreversible complications. Further study of predictors of the development of affective disorders in patients of early reproductive age will contribute to the development of recommendations for the personalized management of patients at risk of developing affective disorders against the background of overweight and preventive measures.

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## HEAVY UTERINE BLEEDING IN WOMEN OF REPRODUCTIVE AGE DUE TO ENDOMETRIAL POLYPS

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**Abstract.** The aim of this study is to study the effectiveness of a combination of estradiol valerate and dienogest with a dynamic dosing regimen (Klayra preparation) for the prevention of recurrent uterine bleeding caused by endometrial polyps. We examined 30 patients aged 26-39 years with profuse uterine bleeding caused by endometrial polyps. After polypectomy, 6 months later, Prima Klaira did not reveal any complaints of profuse uterine bleeding during repeated examination; ultrasound of the pelvic organs showed no endometrial polyp. The results of the study indicate that the administration of Klayra to patients with profuse uterine bleeding caused by an endometrial polyp made it possible to avoid the recurrence of the pathology.

**Keywords.** Abundant uterine bleeding, endometrial polyp, estradiol valerate, dienogest, klayra.

Endometrial polyps can be one of the causes of heavy uterine bleeding in women of reproductive age. Women in this age group may need contraception [1]. The incidence of this pathology can be different and range from 7.8 to 42.3% [2, 3]. Endometrial polyps are formations emanating from the epithelium, which may contain vascular, glandular, fibromuscular and connective tissue components. Polyps are usually benign and rarely exhibit atypia [4, 1]. Currently, a histological classification is used, according to which there are glandular, glandular - cystic, glandular fibrous, fibrous and adenomatous polyps [5]. Adenomatous polyp is a precancerous pathology. Women of reproductive age most often develop functional polyps

that are sensitive to sex steroids [6, 7]. Polyp recurrence is observed in 27.7–46% of patients [8].

The etiology and pathogenesis of endometrial polyps are complex, since they are polyetiological pathology. A leading role in the pathogenesis of polyp formation, according to the results of a number of studies, may be played by hyperestrogenism (relative or absolute) and a lack of progesterone [8, 9]. Other researchers found no changes characteristic of the endometrium in endometrial polyps. The authors of these works believe that the local effect of estrogens is an important stimulus for their formation [4]. Endometrial damage during numerous abortions and curettage performed surgically contributes to the development of disorders of the endometrial receptors [8,10,11]. Such disorders play one of the main roles in the development of polyps. Works devoted to the study of the receptor apparatus of the endometrium have shown that in the formation of endometrial polyps an important role belongs to disorders in the system of the receptor apparatus of the endometrium and disruption of apoptosis processes in it [6].

Frequent inflammatory diseases of the reproductive system also play an important role in this process. Therefore, the use of reliable and effective methods of contraception in patients after polypectomy is justified and relevant as the prevention of recurrence of the disease. It has been proven that the progestogen dienogest, which is part of a combined oral contraceptive with a dynamic dosage regimen containing estradiol valerate, has a pronounced antiproliferative activity [1].

The aim of this study is to examine the effectiveness of the combination of estradiol valerate and dienogest in a dynamic dosing regimen for the prevention of recurrent uterine bleeding caused by endometrial polyps.

We examined 30 patients aged 26-39 years with profuse uterine bleeding caused by endometrial polyps. A comprehensive clinical and laboratory study was carried out, including an assessment of the reproductive system, a general clinical study with anamnesis, a general examination, and the diagnosis of extragenital pathology. The study of the state of the reproductive system as well as the gynecological status was carried out according to the results of bimanual abdominal-vaginal and ultrasound studies. The diagnosis of an endometrial polyp was confirmed by an ultrasound scan of the pelvic organs. Surgical treatment was performed in the amount of hysteroscopy, removal of the endometrial polyp.

Histological examination of polyps revealed: glandular - in 8 (26.7%), glandular-cystic - in 10 (33.3%), glandular-fibrous - in 7 (23.3%), fibrous - in 5 (16.7%). No adenomatous polyps were found. All women needed con-

trapection. After surgical treatment, conservative treatment was prescribed with the drug Klayra, which is a combined oral contraceptive containing the progestogen dienogest in combination with estradiol valerate in a dynamic dosing regimen.

After 6 months of treatment, repeated examination of the patients was carried out, including a general clinical examination and ultrasound examination of the pelvic organs. In all patients, the repeated examination did not reveal complaints of profuse uterine bleeding. Ultrasound of the pelvic organs did not reveal an endometrial polyp. Thus, the results of our study indicate that the administration of Klayra to patients with profuse uterine bleeding caused by an endometrial polyp made it possible to avoid a recurrence of the pathology.

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## IMPROVING THE ORGANIZATION OF HEALTH CARE IN EMERGENCY SITUATIONS

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**Abstract.** A large number of people can be at significant risk in the event of accidents and disasters, emergencies of various nature. Mass destruction of people can occur. There is a need for the organization of the provision of medical care to use the additional bed capacity available in sanatoriums and other medical and health institutions.

We propose to organize the provision of psychiatric and psychological assistance to the population in emergencies of various nature in the above listed institutions.

**Keywords:** HHC (highly hazardous chemicals), emergencies, risk zones, potentially dangerous objects, sanitary losses, psychological and psychiatric assistance

Currently, the number of emergencies, both man-made and natural, with a large number of victims, is increasing worldwide. An emergency situation is a situation in a certain territory or water area resulting from an accident, a dangerous natural phenomenon, catastrophe, natural or other disaster that may or did entail human casualties, damage to human health or the environment, significant material losses and disruption of living conditions of people. [1]

Depending on the nature of the emergency, the following are possible: a large number of victims, destruction of buildings, which complicates the provision of medical assistance. But what makes the provision of medical care more difficult is the possible destruction or damage to medical institutions in this region. In addition to the direct impact of damaging factors on the human body, in the organization of medical care in emergency situations of any nature, it is necessary to take into account the provision of psychological and psychiatric assistance.

In our study, as an indicator of the difficulty in organizing the provision of medical care, calculations of possible sanitary losses in case of accidents

at chemical industry facilities are used on the example of the Republic of Tatarstan. The territory of the Republic of Tatarstan has a powerful economic potential, a developed industry, in the structure of which the leading ones are the oil-extracting, petrochemical industries, mechanical engineering, energy, transport and communications, a fairly stable agriculture.

Despite the fact that for predictive calculations, containers with HHC were taken several times smaller (storage technology) in emergency situations with the participation of chlorine as a damaging factor, sanitary losses are quite large. [2]

**Table 1**  
**Estimated indicators of sanitary losses in case of possible accidents with chlorine by risk zones of the Republic of Tatarstan among the adult population**

Emergency risk zones	Quantity of HHC, t	Pollution zone, km <sup>2</sup>	Total affected	Including		
				Severely affected	Moderately affected	Lightly affected
Kazan	0,8	4,52	6247	625	1562	3748
Almetyevsk	0,8	4,52	7830	783	1958	4698
Bugulma	0,05	2,54	3423	342	856	2054
Zelenodolsk	0,05	2,54	4204	420	1051	2522
Leninogorsk	0,05	2,54	1946	195	487	1168
Naberezhnye Chelny	0,96	5,42	7929	793	1982	4757
Nizhnekamsk	1,0	5,65	7265	727	1816	4359
Chistopol	0,05	2,54	4303	430	1075	<b>2582</b>

To date, general patterns of medical and sanitary consequences of chemical accidents have been formulated. [3]

However, in each specific case, the consequences of individual accidents have their own specific features. [4] The contingent of the seriously injured in accidents with fast-acting substances is formed initially in the immediate vicinity of the accident site, where extremely high concentrations of toxic substances are created. [5]

In other zones, lesions of mild and moderate severity prevail.

Research on this issue allowed us to draw certain conclusions: health

care of the administrative territories of the Republic of Tatarstan, with the traditional approach to organizing the system of medical and evacuation measures - "off the wheel", in the elimination of medical and sanitary consequences of chemical emergencies, cannot be fully and at the optimal time provide medical assistance to the affected population. Due to the shortage of specialized toxicological (toxico-therapeutic) beds, planned for use in emergency situations (the coefficient of deficit of toxicological beds by risk zones of the Republic of Tatarstan is from 1.8 to 12.4), a shortage of toxicologists, the workload of therapeutic hospitals with seriously ill patients (85-95%), adopted by the system of assistance during the hospital period (dispersal and delivery), the so-called "waterlogging" phenomenon of medical institutions will be observed - most of the victims will receive qualified and specialized assistance on a residual basis. With the optimal period of medical care - 2 hours to all victims, they can receive it in 24-48 hours. Hence, a high mortality rate (35%), the development of severe complications, an increase in the time of hospital stay, exclusion for a long time from professional work, additional financial expenses for treatment and rehabilitation are possible. [6]

The issue of improving the organization of medical care can be resolved to a certain extent by using not only chemical nature for the provision of medical care, treatment and rehabilitation of victims in emergency situations, but also other emergencies with a large number of victims - sanatoriums, preventive institutions and health centers. subject to the advance planning of the system and organizational and functional restructuring of their work in emergency situations.

Justification for the provision of qualified and specialized medical care in sanatoriums and other health institutions:

At first. Some part of medical institutions may find themselves in the zone of infection and find themselves outside the field of medical activity.

Secondly. Insufficient number of beds and its untimely capacity to accommodate victims. According to the medical and sanitary prognosis, even with the complete allocation of the entire bed fund of the therapeutic profile, its deficit in certain risk zones can be up to 96% for the adult and 87% for the child population.

Thirdly. The inability to release the bed fund. In real conditions, therapeutic hospitals are filled by 85-95% of seriously ill patients who cannot be discharged for outpatient treatment.

Fourth. In our special literature and regulatory documents, it is recommended to use for these purposes hospitals deployed on the basis of "some" institutions, including schools, which does not correspond to the

time factor, not to mention material support, bed capacity, medical sanitary equipment, etc.

Fifth. On the territory of risk zones or in the immediate vicinity there are health institutions with a sufficient number of beds, equipment and equipment, all conditions for catering, sanitary and hygienic provision, with timely planning, reorganization of their work in an emergency, as well as strengthening by appropriate forces and means.

As mentioned above, in emergency situations it is necessary to organize psychological and psychiatric assistance to the victims. The organization of the provision of psychiatric and psychological assistance to the population in emergency situations at the present stage is a complex and urgent task of the disaster medicine service. In order to implement the Law of the Russian Federation "On psychiatric care and guarantees of the rights of citizens in its provision" and to improve specialized care for persons with mental disorders arising in emergency situations, an order of the Ministry of Health of the Russian Federation of October 24, 2002 N 325 "On psychological and psychiatric assistance was issued. in emergency situations ", which approved the " Regulation on the organization of psychological and psychiatric assistance to victims in emergency situations."

The specific pathologies of population damage in natural and man-made emergencies are neuropsychiatric: stress, shock, stupor. In ICD-10, such nosological units as "Post-traumatic stress disorder" (F 43.1) and "Chronic personality change after experiencing a catastrophe" (F 62.0) were introduced.

Approximately 10-15% of those affected need hospital treatment in neuropsychiatric hospitals and at least 50% in outpatient settings.

Psychiatrists (psychotherapists) must also provide outpatient appointments. As practice shows, the number of people who applied for psychological and psychiatric help in an emergency is determined not by the true need for this type of assistance, but by the location of the psychiatrist's office. Therefore, it is necessary to carefully consider where the psychiatrist (psychotherapist) should conduct the appointment. In some cases, it is advisable to conduct a reception in the same building (and, if possible, in the same compartment), where the victims are provided with material assistance. In other cases, it is more justified to conduct an outpatient appointment in a city (district polyclinic), since part of the population with complaints of "feeling unwell" often turns to this very place. [7]

We propose to use medical institutions as an additional bed fund in case of emergencies of various natures with a mass number of victims. In this case, the issue is being resolved with the possible location of the

department of psychological and psychiatric care, an office for psychological and psychiatric care, an advisory mobile team of psychological and psychiatric care.

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**THE STATE OF CONVALESCENTS AFTER LUNG INJURY  
ASSOCIATED WITH THE NEW CORONAVIRUS INFECTION COVID-19**

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**Abstract.** Patients who have suffered lung damage against the background of a new coronavirus infection COVID-19, due to the long-lasting residual effects after discharge from the hospital (low-grade fever, respiratory symptoms) need further observation and rehabilitation measures. In patients after a volumetric lesion of the lung tissue, further observation with the assessment of computed tomography in dynamics is of interest for the study the consequences of damage to the lung tissue in the long term.

**Keywords.** Reconvalescents, lung damage, coronavirus infection, COVID-19.

At the end of 2019, an outbreak of a new coronavirus infection occurred in the People's Republic of China with an epicenter in the city of Wuhan. On February 11, 2020, the World Health Organization (WHO) determined the official name of the infection caused by the new coronavirus - COVID-19 ("Coronavirus disease 2019"). On February 11, 2020, the International Committee on Virus Taxonomy assigned the official name to the causative agent of the infection - SARS-CoV-2 [1,2].

Bilateral pneumonia (viral diffuse alveolar injury with microangiopathy) is the most common clinical manifestation of COVID-19, 3-4% of patients develop acute respiratory distress syndrome (ARDS), possibly developing hypercoagulable syndrome with thrombosis and thromboembolism. It has been established that with COVID-19, the pathological process may

involve: the central nervous system, myocardium, kidneys, liver, gastrointestinal tract, endocrine and immune systems [3].

The entrance gate of the pathogen is the epithelium of the upper respiratory tract, epithelial cells of the stomach and intestines. Initially, SARS-CoV-2 "enters" target cells that have receptors for type II angiotensin converting enzyme (ACE2). Further, the cell transmembrane serine protease type 2 (TSP2) promotes the binding of the virus to ACE-2, activating its S-protein, which is necessary for the penetration of SARS CoV 2 into the cell. According to recent data, ACE2 and TSP2 are expressed on the surface of cells of the respiratory, intestine, esophagus, heart, adrenal glands, urinary bladder, brain (hypothalamus) and pituitary gland, as well as endothelium and macrophages. Also, the nucleocapsid protein of the virus is found in the cytoplasm of the epithelial cells of the salivary glands, stomach, duodenum and rectum, urinary tract, in the lacrimal fluid [1,4].

Nevertheless, the main rapidly attainable target of SARS-CoV-2 is the alveolar cells of type II (AT2) of the lungs, which further leads to the development of diffuse alveolar damage [5,6].

According to the latest studies of signs of severe respiratory failure, with COVID-19, there is a picture of ARDS ("shock lung" or diffuse alveolar damage): a sharp plethora and diffuse compaction of the lungs, almost indistinguishable from the ARDS pattern in "swine" influenza A/H1N1pdm (in 2009 and in subsequent years). It is also noted that SARS CoV 2 is characterized by damage to the vascular system of the lungs (endotheliitis) and severe alveolar-hemorrhagic syndrome [1,3,7].

A distinctive feature of changes in the lungs in COVID-19 from changes in the lungs in influenza A/H1N1 and other coronavirus infections is pulmonary vascular thrombosis, pulmonary embolism (PE), thrombosis of arteries of other organs with the development of their infarctions (brain, myocardium, kidneys , intestines, spleen) [8-12].

Thus, as with other coronavirus infections, as well as influenza A/H1N1, in most cases, the main morphological substrate of COVID-19 is diffuse alveolar damage, but, unlike them, with simultaneous severe damage to the vascular bed and in a number of patients with various organs and systems [13,17].

Long-term consequences after the transferred viral pneumonia against the background of influenza A/H1N1/09 are described by a number of authors [18]. It is currently of interest to study the consequences after lung injury associated with COVID-19.

Purpose of the study. Examine the clinical parameters in convalescents after lung injury associated with COVID-19.

Materials and methods. We present the results of observation of 93 patients after discharge from the hospital for two months. In all patients during inpatient treatment, the diagnosis was confirmed by the study of a smear from the larynx and nasopharynx for the presence of SARS-CoV-2 coronavirus and computed tomography (CT) of the lungs.

The patients' age ranged from 23 to 81 years (mean age  $53.4 \pm 12.6$  years). Men 37 (40%), women - 56 (60%). The distribution of patients by sex and age is shown in table 1.

**Table 1**  
**Distribution of patients with pneumonia against the background of COVID-19 by sex and age**

Age	Women		Men	
	Quantity	%	Quantity	%
23-29	4	7,1	1	2,7
30-39	6	10,7	7	19
40-49	14	25	5	13,5
50-59	12	21,5	6	16,2
60-69	14	25	14	37,8
70-81	6	10,7	4	10,8
Total	56	100	37	100

When performing CT of the lungs upon admission to the hospital, the lesion of the lung tissue corresponded to CT1 (up to 25%) in 16 people, CT2 (from 25 to 50%) - 49, CT3 (from 50 to 75%) - 18, CT4 (more than 75%) in 10 patients.

Depending on the volume of lung tissue damage, patients were divided into two groups: group 1 - 65 patients with CT1-2 (lung tissue damage up to 50%), group 2 - 28 people with CT 3-4 (lung tissue damage more than 50%)

The most frequent background pathology at the time of development of viral pneumonia was arterial hypertension - 68.8%; ischemic heart disease (IHD) - 36.6%, alimentary-constitutional obesity (ACO) - 24.7%; diabetes mellitus (DM) - 15% (table 2). Moreover, in the second group, arterial hypertension and abdominal-constitutional obesity were more often noted by 1.4 and 2 times, respectively ( $p < 0.05$ ).

**Table 2**

**The structure of the background pathology in patients with pneumonia on the background of COVID-19 (n = 93)**

Disease	Group 1 (n=65)		Group 2 (n=28)		pc
	n	%	n	%	
Arterial hypertension	40	61,5	24	85,7	0,02
IHD	21	32,3	13	46,4	0,2
ACO	12	18,4	11	39,2	0,03
Diabetes mellitus type II	8	12,3	4	14,2	0,8
Diabetes mellitus type I	1	1,5	1	3,6	0,5
COPD	3	4,6	1	3,6	0,8
Bronchial asthma	3	4,6	4	14,2	0,1
Viral hepatitis	1	1,5	2	7,1	0,2
Chronic pyelonephritis	1	1,5	1	3,6	0,5
Chronic tonsillitis	1	1,5	1	3,6	0,5

The analysis of the duration of the disease revealed the following: from the moment the first symptoms of coronavirus infection appeared to seeking medical help, it took from 1 to 10 days. It also took from 3 to 13 days before admission to the hospital. It should be noted that in groups with different severity of the course of pneumonia, the timing from the onset of the disease to seeking medical help and hospitalization did not differ (table 3).

**Table 3**

**Terms of the disease (M±SD)**

Duration (day)	Group 1	Group 2
From the onset of the disease to seeking medical attention	3,9±1,9	4±1,5 p>0,05
From the onset of the disease to admission to the hospital	7,9±2,8	7,1±2,9 p>0,05

The first symptoms of coronavirus infection were acute in all patients. When studying the clinical picture at the onset of the disease, the most frequent symptoms were fever (100%), mainly febrile, weakness (97.8%), cough (28%). Shortness of breath at rest or with minor physical exertion was felt by 48.4% of patients. A number of patients noted myalgia (53.8%), arthralgia (45.2%), headache (33.3%). Dyspeptic symptoms were noted - decreased appetite (53.8%), loose stools (22.6%), abdominal pain (10.8%), nausea (7.5%). Anosmia (29%), runny nose (22.6%), sore throat (19.3%) were somewhat less common. It is noteworthy that in the group

of more severe patients at the onset of the disease, dyspnea at rest was noted 5 times more often than in group 1 ( $p < 0.05$ ). The main clinical symptoms identified in the examined patients at the onset of the disease are presented in table 4.

**Table 4**  
**Clinical symptoms at the onset of the disease in the studied patients (n=93)**

	Group 1		Group 2		pc
	n=65	%	n=28	%	
Fever up to 38°	26	40	6	21,4	0,08
Fever 38-39°	21	32,3	13	46,4	0,2
Fever > 39°	18	27,7	9	32,1	0,7
Weakness	65	100	26	92,8	0,02
Dry cough	9	13,8	6	21,4	0,4
Cough with mucous phlegm	5	7,7	6	21,4	0,05
Dyspnea at rest	8	12,3	17	60,7	0,001
Dyspnea on exertion	17	26,1	3	10,7	0,09
Headache	19	29,2	12	42,9	0,2
Myalgia	38	58,4	12	42,9	0,1
Arthralgia	30	46,1	12	42,9	0,7
Runny nose	16	24,6	5	17,9	0,4
Sore throat	12	18,4	6	21,4	0,7
Conjunctivitis	4	6,1	-	-	-
Confusion of consciousness	3	4,6	2	7,1	0,6
Abdominal pain	7	10,7	3	10,7	0,9
Decreased appetite	38	58,5	12	42,9	0,1
Nausea	5	7,7	2	7,1	0,9
Vomiting	1	1,5	2	7,1	0,1
Loose stools	14	21,5	7	25	0,7
Anosmia	16	24,6	11	39,2	0,1
Tachycardia	16	24,6	2	7,1	0,05

When studying antibodies to the SARS-CoV-2 coronavirus (Ig M, G) in patients one month after discharge from the hospital, all of them received a positive result.

When observing patients, it was noted that after discharge from the hospital, the overwhelming majority persisted in symptoms such as low-grade fever for up to 15 days, cough, shortness of breath, soreness or dis-

comfort in the chest during breathing, severe asthenia. It draws attention that in group 2 (with a large lesion of the lung tissue) for a longer time - up to 2 months and 3.6 times more often after discharge, complaints of dyspnea at rest remained ( $p < 0.05$ ), as well as 1.3 times more often, patients noted subfebrile fever that lasted up to 15 days ( $p < 0.05$ ) (table 5).

**Table 5**  
**Clinical symptoms after suffering pneumonia against the background of COVID-19**

Clinical symptoms	Group 1 n=65		Group 2 n=28		pc
	n	%	n	%	
Fever					
-up to 15 days	32	49,2	17	60,7	0,04
-1 month	-	-	-	-	-
Chest discomfort					
- up to 15 days					
- 1 month	8	12,3	4	14,3	0,7
- from 1 - 2 months	39	60	11	39,3	0,06
	18	27,7	13	46,4	0,07
Cough					
- up to 15 days	21	32,3	14	50	0,1
- 1 month	19	29,2	8	28,6	0,9
- from 1-2 months	14	21,5	6	21,4	0,9
Dyspnea					
- up to 15 days	22	33,8	4	14,3	0,05
- 1 month	29	44,6	13	46,4	0,8
- from 1 - 2 months	7	10,8	11	39,3	0,001
Asthenia					
- up to 15 days	10	15,4	-	-	-
- 1 month	39	60	17	60,7	0,9
- from 1 - 2 months	15	23,1	11	39,3	0,1
Anosmia					
-up to 15 days	9	13,8	6	21,4	0,3
- 1 month	7	10,8	5	17,9	0,3

Thus, patients who have suffered lung damage against the background of a new coronavirus infection COVID-19, due to the long-lasting residual effects after discharge from the hospital (subfebrile condition, respiratory symptoms) need further monitoring and rehabilitation measures. In patients after a volumetric lesion of the lung tissue, further observation with the assessment of computed tomography in dynamics is of interest to study the consequences of damage to the lung tissue in the long term.

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## CHARACTERISTICS OF THE MALE POPULATION MORTALITY FROM PROSTATE CANCER IN MODERN CONDITIONS

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**Abstract.** The article describes the mortality rate of the male population of the Samara Oblast from prostate cancer. The dynamics of mortality is shown for a long-term period from 2003 to 2018. The prognosis of mortality from prostate cancer up to 2025 is given. The dynamics of mortality demonstrates an upward trend, which requires modern organizational approaches to providing medical care to patients with prostate cancer.

**Keywords:** mortality, prostate cancer, dynamics, prognosis

Samara Oblast is a large constituent entity of the Russian Federation with a population of almost 3.2 million people, located in the Volga Federal District in the middle reaches of the Volga River. In the period from 2003 to 2018, the population of the region decreased by 1.3% - from 3235.7 thousand to 3193.5 thousand inhabitants.

At the same time, the male population decreased from 1494.1 thousand to 1460.3 thousand, or by 2.3% ( $\chi^2 = 128.13$   $p = 0.0000$ ). A decrease in the number of men occurred in the age group from 0 to 17 years old (by 6.6%;  $\chi^2 = 344.37$   $p = 0.0000$ ), as well as in the age group from 18 to 59 years (6.5%;  $\chi^2 = 1933.9$   $p = 0.0000$ ). At the same time, the number of men aged 60 and over increased by 21.1% ( $\chi^2 = 6308.67$   $p = 0.0000$ ). The decline in the number of children and adolescents in the male population is associated with low fertility rates during the 1990s and early 2000s.

Annually, in the period from 2003 to 2018, almost 1.5 million men lived on the territory of Samara Oblast on average. Moreover, the largest number of residents was registered in 2003 (1,494,078 people). The smallest number of registered men in Oblast was noted in 2010 - 1,454,468 people, which is 4,161 people (2.8%) less than in 2003.

The number of men 60 years and older in the total male population is increasing every year. If in 2003 this group was 14.1%, then in 2018 - 17.5%. At the same time, the lowest proportion of men in this age group was registered in 2006 - 12.9%.

We have built a linear regression model ( $Y = 12.2 + 0.299x$ ) for the dynamics of the proportion of men aged 60 and older in the total male population, which also assumes a further increase in the proportion of men aged 60 and older in the total male population.

In the period from 2003 to 2018, 4081 patients with prostate cancer died in Samara Oblast. The largest number of deaths from prostate cancer was registered in 2018 - 318 cases (7.9%); the smallest in 2003 - 173 cases (4.2%). At the same time, the mortality rate from prostate cancer increased from 11.6 per 100 thousand men in 2003 to 21.8 in 2018, or 1.9 times ( $\chi^2 = 44.13$ ,  $p = 0.0000$ ). The average growth rate for this period was 4.3%. The lowest mortality rate was registered in 2003, and the highest - in 2018. The increase in the mortality rate is described by the equation ( $Y=10.915+0.62x$   $r=0.9025$   $R^2=0.8145$   $F(1,14)=61,454$   $p=0.00002$ ).

The characteristics of the parameters of the regression model of the dynamics of mortality in men from prostate cancer in the period 2003-2018 in Samara Oblast are presented in Table 1.

**Table 1. Characteristics of the regression model of the dynamics of mortality in men from prostate cancer in the period 2003-2018 in Samara Oblast**

Parameters	Model parameter values	Parameter standard error	Student's test (t)	Significance level (p)
Absolute term	10,915	0,9069	12,0349	0,000000
Period	0,62	0,0791	7,8393	0,000002

Prediction of values for the period up to 2025 based on the results of the regression model is presented in table 2.

**Table 2 - Prediction of mortality from prostate cancer in Samara Oblast until 2025**

Period	Predicted values	Borders of the confidence interval (CI) of the predicted values [-95% - + 95%]
2019	22,7	[21,055-24,336]
2020	23,3	[21,524-25,106]
2021	23,9	[21,989-25,880]

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2022	24,6	[22,453-26,657]
2023	25,2	[22,915-27,435]
2024	25,8	[23,375-28,215]
2025	26,4	[23,834-28,996]

By 2025, a further increase in male mortality from prostate cancer is expected, which may exceed the mortality rate in 2018 by 21.1%

In the structure of mortality of the male population from malignant neoplasms at the end of 2018, prostate cancer is ranked fourth after malignant neoplasms of the lung, stomach and colorectal cancer. If in 2003 the proportion of deaths from prostate cancer in the structure of mortality was 4.8%, then in 2018 it increased to 9.4%.

Having analyzed the mortality rate in the context of rural municipal districts of Samara Oblast in 2003 and 2018, it should be noted that according to the results of 2003, the group with a low mortality rate (less than 6.7-4.2 per 100 thousand male population) included such districts as: Bogatovsky, Bolsheglushitsky, Krasnoarmeisky, Krasnoyarsky, Kinel-Cherkassky, Klyavlinsky, Pestravsky, Chelno-Vershinsky, Shentalinsky, Shigonsky, Kamyshlinsky and Elkhovsky. The Bolshechernigovsky, Syzransky, Privolzhsky, Neftegorsky, Stavropolsky and Kinselsky districts are referred to the group of districts with an average mortality rate ( $6.7 \pm 4.2$  per 100 thousand men). The highest mortality rate (more than  $6.7 + 4.2$  per 100 thousand population) among rural areas of Samara Oblast in 2003 was registered in Isaklinsky, Borsky, Koshkinsky, Bezenchuksky, Khvorostyansky, Sergievsky, Volzhsky and Pokhvistnevsky districts.

At the end of 2018, the Volzhsky, Bolsheglushitsky, Isaklinsky, Krsnoarmeisky, Krasnoyarsky, Klyavlinsky, Chelno-Vershinsky, Shentalinsky and Elkhovsky districts were included in the group with low mortality (less than 15.1-7.7 per 100 thousand male population).

The group of rural areas with an average mortality rate ( $15.1 \pm 7.7$  per 100 thousand men) included: Kamyshlinsky, Sergievsky, Borsky, Bezenchuksky, Kinselsky, Privolzhsky, Syzransky, Stavropolsky, Pokhvistnevsky districts.

High mortality from prostate cancer (more than  $15.1 + 7.7$  per 100 thousand population) at the end of 2018 was registered in Pestravsky, Kinel-Cherkassky, Shigonsky, Neftegorsky, Bogatovsky, Koshkinsky, Khvorostyansky Bolshechernigovsky districts (Figure 3.21).

Thus, comparing the areas in terms of mortality rates in 2003 and 2018, it should be noted that a high rate was recorded in the Koshkinsky and Khvorostyansky districts. The average mortality rate for both periods was

recorded in the Privolzhsky, Syzransky, Stavropolsky and Pokhivistnevsky districts. Bolshheglushitsky, Krasnoarmeisky, Krasnoyarsky, Klyavlinisky, Chelno-Vershinsky, Shentalinsky and Elkhovsky districts are classified as territories with a low mortality rate in 2003 and 2018.

Assessing the geographical location of areas with low, medium and high mortality rates, it should be noted that in 2003 areas with an average level were mainly located in the southern and western parts of the region, in 2018 - in the western and eastern parts. Areas with low mortality in 2003 were located in the southern, central and northern parts, in 2018 - in the central and northern parts. At the end of 2003, high mortality was registered in the south-west and north-east of the region, at the end of 2018 - in the southern and south-western parts.

Thus, no specific geographical features of male mortality from prostate cancer have been identified in the Samara Oblast.

Mortality from prostate cancer in the cities of Samara Oblast was analyzed in a similar way. According to the results of 2003, a high mortality rate (above  $13.7 + 7.3$  per 100 thousand male population) was registered in Novokuibyshevsk. Samara, Syzran, Otradny, Chapayevsk and Zhigulevsk are included in the group with an average mortality rate ( $13.7 \pm 7.3$  per 100 thousand population). In 2003 in Oktyabrsk not a single case of death from prostate cancer was registered.

In 2018, a high mortality rate (above  $26.2 + 7.4$  per 100 thousand male population) was noted in Zhigulevsk; the average mortality rate ( $26.2 \pm 7.4$ ) was recorded in Samara, Togliatti, Syzran, Novokuibyshevsk, Otradny, Chapayevsk, Oktyabrsk. Low mortality rate among urban districts of Samara Oblast in 2018 was not registered.

An analysis of the mortality rate for both periods showed that there are coincidences only in the group with an average indicator. So, according to the results of 2003 and 2018, the average mortality rate was recorded in Samara, Syzran, Otradny and Chapayevsk.

The most significant increase in mortality during the analyzed period was noted in Tolyatti (3.6 times) ( $t = 5.55$ ,  $p = 0.038$ ), Zhigulevsk (2.6 times) ( $t = 1.68$ ,  $p = 0.058$ ) and Otradnoye (2.1 times) ( $t = 1.24$ ,  $p = 0.057$ ). At the same time, mortality in Novokuibyshevsk decreased by 9.5% ( $t = 0.22$ ,  $p = 0.17$ ).

The obtained characteristic of mortality of the male population from prostate cancer requires modern organizational approaches to the provision of medical care to patients with prostate cancer.

**EVOLUTION OF METHODS AND TECHNIQUES FOR LABORATORY  
DETECTION OF COMPILOBACTERIOSIS IN THE TASKS OF  
CLINICAL DIAGNOSIS OF THE RISK OF MISCARRIAGE**

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**Abstract.** The paper substantiates the urgency of the problem of miscarriage, presents a comparative analysis and assessment of the effectiveness of traditional laboratory studies to identify campylobacteriosis in the task of assessing the risk of miscarriage. A new concept for the implementation of these studies is considered and an original method for detecting campylobacter infection with increased reliability and efficiency of detecting campylobacter infection is proposed.

Analysis of modern statistical data of the World Health Organization (WHO) [1, 2], publications of specialized organizations of European countries and Russia [3, 4] show that the trend of demographic decline in the last 15-20 years is quite stable. At the same time, one of the main reasons for the deterioration of the demographic situation is miscarriage, the causes of which are associated with the imperfection of methods [5, 6] and means [7, 8] for diagnosing the state of pregnancy and conducting obstetrics. Among the factors that adversely affect the outcome of pregnancy, one of the first places according to Demidova E.M. (1998), Milovanova A.P. (1999), Apresyan S.V., Radzinsky V.E., Orazmuradova A.A. (2015) belongs to bacterial infections [6, 9-11]. In particular, the infection can cause fetal death, missed pregnancy, spontaneous miscarriage. Usu-

ally, this pathology is associated with a bacterial infection transferred by a woman during pregnancy [10, 11]. The development of an infectious disease in the fetus, the severity of the lesion, the prevalence of the pathological process, the rate of its implementation and the outcome of the disease are mainly determined by the type of pathogen, its virulence, transplacental tropism, as well as protective reserves and the ability of the fetus to an immune response [12]. Complications of pregnancy, similar to those caused by urogenital infection, were noted by foreign authors D. S. Farell, M. T. Harris (1992) [13]. They found a relationship between spontaneous abortion and perinatal infections in women with enteritis associated with *Campylobacter coli* infection. This is also evidenced by the work of Saavedra J. M., Domenich V., Vega D. Pascual L. Garron J. M. (1996), Viejo G; Gomez B; De Miguel D; Del Valle A; Otero L; De La Iglesia P. (2001) [14,15]. As noted in the works of Khaliullina S.V., Anokhin V.A. (2001) [16], cases of septic abortions were observed in women infected with *Campylobacter fetus* subsp. *fetus*, *Campylobacter jejuni*, *Campylobacter Coli*, and complications in the fetus and newborn who contracted *campylobacter* infection in utero. According to Ya.S. Zimmermann (1997, 2001, 2019), Sahay P et al. 1995, Gorelova A.V., 1997, Lin C. W. et al. 1998, Viejo G. V. et al. (2001) more than 1 billion people are infected with *Campylobacter pylori*. The *Campylobacter fetus* subspecies causes acute intestinal diseases [15, 17, 18].

In the work (Bondarenko V.Z., 1988) [19], *campylobacteriosis* is interpreted as a zoonoanthropous infectious disease caused by polymorphic microorganisms of the *Campylobacter* species. *Campylobacter intestinalis* infection in humans is characterized by a symptom complex and is more often accompanied by fever, miscarriages with bacteremia, septic arthritis, endocarditis, meningoencephalitis, and other phenomena [19]. *Campylobacter fetus* subspecies *fetus* are opportunistic microorganisms, and therefore the ability of these microorganisms to cause a pathological process is directly related to the state of the microorganism.

The results of studies [20, 21] of 13 *campylobacter* species showed that *Campylobacter jejuni*, *Campylobacter coli*, *Campylobacter fetus* are of the greatest importance in human pathology as a causative agent of diarrhea. However, these bacteria belong to microaerophiles and capnophiles; therefore, their cultivation on artificial nutrient media presents certain difficulties, which are analyzed in works [22, 23]. It was shown that spores and capsules do not form, they are tropic to the columnar and squamous epithelium. The possibility of settling them in the cervical canal has been proven [23].

The decisive influence on the clinical and epidemiological characteristics of campylobacteriosis is exerted by the factors of the macroorganism, and not the biological characteristics of the pathogens. A mild or asymptomatic course of campylobacteriosis in humans is a consequence of the characteristics of the infectious process in a partially or completely immune host [21]. Of great importance is the ability of *Campylobacter* to penetrate the mucus and move along the epithelial cells (*Campylobacter* cells remain mobile in the mucus for at least 30 minutes) [24]. Scanning electron microscopy showed that bacteria first attach to epithelial cells using their flagella, which then perforate the cell membrane [25].

Secretory Ig A-AT play a predominant role in protecting the macroorganism from *Campylobacter jejuni* (Chaika N.A., (1988) and D. Naylor, Robinson (1979) proved that certain "threshold" antibodies that can be detected in clinically healthy individuals, promote the formation of subclinical forms of infection and maintain the persistence of infectious agents in the body. The role of local cellular immunity mechanisms in alleviating resistance to *Campylobacter jejuni* remains poorly understood.

The following methods are used to diagnose campylobacter:

1. Bacteriological - isolation of the culture of *Campylobacter*;
2. Morphological - RSK, RNGA, IFA. The methods are not informative, because do not allow to clarify the localization of campylobacter and determine their viability, and therefore the potential danger of infection. These methods are used as confirmatory in combination with other tests.
3. Biochemical - catalase, oxidase and urease tests. These tests are performed only with an isolated culture of *Campylobacter*, T.E. based on the bacteriological method.
4. Immunohistochemical method. Monoclonal and polyclonal antibodies are used to identify campylobacter.
5. Method of polymerase chain reaction. The method is highly sensitive, specific and versatile. Identification of a specific region of the pathogen's DNA by this method gives a direct indication of the presence of *Campylobacter* antigens in the test material, but does not indicate the viability of *Campylobacter* and their number. Another advantage of this method is the high speed of obtaining results.
6. The bacteriological method is the main one in the diagnosis of campylobacteriosis. The most informative, as it allows you to identify the viability of the pathogen, determine its amount in the test material, clarify the type of campylobacter, and also determine its sensitivity to antibiotics. The disadvantages of this method are high cost and high labor intensity. To isolate campylobacter from material containing few viable cells, an en-

richment stage is required (Vorobiev A. A., Sichinsky L. A. et al. 2000). High-quality nutrient media, methods and conditions of cultivation are the main conditions for the successful isolation of campylobacter (A. A. Vorobiev, L. A. Sichinsky 2000). The sowing rate of *Helicobacter pylori* in the leading scientific laboratories of the world does not exceed 70%, and in clinical laboratories it ranges from 30-50% (Van Lwet A., Thijs J. C. Kooitresmid A. et al., 1993). The classical bacteriological method is not sensitive enough for the diagnosis of invasive forms of infections, when the pathogen persists inside the cell, as well as because of the ability of spiral forms under certain conditions to transform to a coccoid uncultivated form (Bukharin O.V., Usvyatsov P.Ya. 1999).

V.I. Korovin, V.G. Zhukhovitsky, I.V. Dryabkina (1999) believe that it should be taken into account that microaerophilic bacteria (in particular, *Campylobacter*) are among the hard to cultivate. The technique of their isolation is close in cost and labor intensity to the technique of isolation of anaerobic bacteria. The problems of bacteriological diagnosis of campylobacteriosis are also associated with the technique of taking material and transporting it. The high sensitivity of *Campylobacter* to the accompanying intestinal microflora, to its acidic metabolic products and normal atmospheric air makes it possible to store native samples of the material for no more than 1 hour at + 4°C (Cherkassky B.L., Vorotyntseva N.V., Yushchuk N.D. et al. 1989, Goossens H., Butzler JP 1992). If transport times exceed 1 hour from collection, it is recommended to use a transport medium that allows *Campylobacter* to survive. From a wide variety of media of this group, alkaline peptone water with thioglycolate and cystine, Carry-Blair medium, which allows not only to maintain the viability of all campylobacteria, but also to delay the growth and reproduction of representatives of the accompanying flora, can be noted (Goossens H., Butzler J. P. 1992). They acquire special significance at low concentrations of campylobacter in the material from patients, typical for samples collected in the late stages of the disease or against the background of antibiotic treatment (Goossens H., Butzler J. P. 1992). At the same time, it is noted that storage of samples in these environments for more than 24 hours even at + 4°C leads to the death of 10-16% of campylobacter, and sometimes more (Ladron de Guevara C., Peres-Pomata MT, Aguila A. et al 1989) and that the maximum storage period at 4°C should not exceed 24 hours (Megraud F. 1994).

Laboratory diagnostics of infections caused by a bacterium of the genus *Campylobacter*, considered in [17, 22.], is carried out during the clinical and bacteriological diagnosis of acute intestinal infections. Monitoring women with a history of miscarriage and suspected chronic inflammatory

process in the genitals (presence of cervical ectopia) includes examination only for a standard set of sexually transmitted infections and bacterial inoculation of the contents of the cervical canal for opportunistic flora (Order № 50 of 10.02.2003, Ministry of Health of the Russian Federation). Although from the research materials of A.N. Trubitsky (1988) in veterinary medicine, the influence of campylobacter infection on the fact of spontaneous abortion of cattle is reliably known. In foreign sources [Rams TE, Feik D., Stots J / 1993.], there are also repeated reports of sowing campylobacter infection in women who have undergone spontaneous abortion (Rams TE, Feik D., Stots J.).

The use of standard volumes of examination of pregnant women for the presence of infection in the genital tract has a number of disadvantages. First, bacterioscopy of smears for flora in pregnant women with cervical ectopia is performed using methylene blue staining, which does not allow identifying campylobacter by morphology. Secondly, bacterial inoculation in pregnant women with signs of colpitis or cervicitis makes it possible to reveal the presence of only a part of an opportunistic infection, since the culture media used and cultivation conditions do not allow assessing the presence of microaerophilic or anaerobic microorganisms in the contents of the cervical canal, in particular campylobacter.

To improve the quality of examination, observation and treatment of women with a history of spontaneous abortions in the work [26] proposed a method and technique for examining women for the presence of campylobacter infection in the cervical canal.

The method includes 5 steps [26]. At the first stage, microscopy of smears from the cervical canal, stained according to Gram, with Tsil carbolic fuchsin 1:5, is performed. At the second stage, the obsessive cervical canal in women with detected bacteria morphologically similar to campylobacter is seeded on dense nutrient - selective campylobacter agar produced by Hi Media, India, containing a selective mixture of antibiotics. Sowing is performed immediately after taking the material with a brush for PNR diagnostics. Crops are cultivated under microaerophilic conditions; inoculated dishes are placed in a microanerostat. In the presence of desiccators with a pressure gauge, after placing crops in them, air is pumped out to -1 atm. Then it is loaded with a special gas mixture in the cylinder (83-85% nitrogen, 15-13% carbon dioxide, 2% oxygen). Pumping out and loading with a gas mixture is repeated 2 more times. Crops are incubated at 37°C for 48 hours, followed by growth studies.

The third stage is devoted to the study of the growth of bacteria on nutrient media, determine the mobility and morphology of bacteria, cata-

lase, oxidase and urease activity. It is known that campylobacter forms 2 types of colonies. The first type is the most common. These are large flat, rounded, irregular-shaped colonies spreading in the form of "puddles", 2-8 mm in diameter, colorless, transparent, resembling drops of condensation water, or light gray, without hemolysis. The second type of colonies is very small, 1-2 mm in diameter, round, regular, with smooth edges, with a shiny, smooth surface, convex, transparent, without hemolysis.

At the fourth stage, Gram-stained smears are prepared from the colonies characteristic of *Campylobacter* to study the morphology of the microbe and a "crushed drop" in saline to reveal the mobility of the microbe. In a stained smear, small spiral shapes of rods, bent around the longitudinal axis, are found singly, in pairs or in the form of "gull wings". Mobility is determined by phase-contrast microscopy with oil immersion, 90 objective and 90 phase ring. *Campylobacter* move rapidly, "corkscrew-like", screwed into the environment and rush from side to side. A culture is considered mobile if at least one actively moving bacterial cell is found in 10-12 fields of view. The species of the isolated culture is determined by thermophilicity (growth at a temperature of 37°C) and by the ability to quickly hydrolyzate sodium hippurate and resistance to nalidixic acid. Susceptibility tests for nalidixic acid and cephalothin are performed using appropriate discs with a concentration of 30 µg (conventional discs for staging antibiotic resistance of bacteria). The method of performing these tests is fully consistent with the method for determining the antibiotic resistance of bacteria. *Campylobacter* is used, which contains a selective mixture of antibiotics. Crops are incubated at 37°C for 48 hours under microaerophilic conditions. The presence of growth indicates the resistance of the culture to nalidixic acid, the absence of growth indicates its sensitivity.

At the fifth stage, to carry out a pure culture of campylobacter, in parallel, inoculation is carried out on Kitta-Tarozzi medium (regenerated - without oxygen). Incubation is carried out under the same conditions for 48 hours. A positive result of bacteriological research allows you to prescribe adequate antibiotic therapy aimed at eliminating the pathogen from the woman's body outside and during pregnancy, which will prevent complications of pregnancy.

Studies [27] show a strong correlation between the detection of campylobacter with the presence of chronic inflammatory diseases of the genital organs (endocervicitis, endometritis, adnexitis) in women with miscarriage. The method of microbiological diagnostics presented in the work makes it possible to identify campylobacter infection from the genital tract with high reliability. Implementation of the method in accordance with the algorithm

for diagnosing the etiology of miscarriage and the results of clinical studies will identify the causal factor of abortion in women with recurrent miscarriages and adequately prescribe treatment that will eliminate the cause of the loss of the desired pregnancy.

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**EFFECTIVE AND SELF-EFFECTIVE SOLUTIONS FOR MULTI-OBJECTIVE OPTIMIZATION**

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**Annotation.** In this paper, the necessary and sufficient conditions for the efficiency of solutions are formulated from general assumptions. Consequently, the well-known theorem of A.M. Jofrion on the characterization of effective points themselves. The concept of an efficient (Pareto optimal, i.e. unimprovable) solution in the field of multi-objective optimization plays an extremely important role. It is used in the study of various issues from the field of decision theory (theory of choice of options).

**Keywords:** multi-purpose optimization, decision-making theory, Pareto-optimal decisions, improving decisions, effective decisions.

The concept of an efficient (Pareto optimal, i.e. unimprovable) solution in the field of multi-objective optimization plays an extremely important role. It is used in the study of various issues from the field of decision theory (theory of choice of options). At the moment, there are a very large number of works devoted to the study of certain properties of effective (and even actually effective) solutions in the case when the objective function and the feasible set of solutions meet certain requirements.

The statement of the problem of multipurpose optimization itself is as follows: determine the optimal choice of an element  $x^0 \in X$  on a multi-purpose indicator  $f(x) = \{f(x|y)\}$ ,  $y \in Y$ , where  $X$ ,  $Y$  and sets of admissible elements, and target functionality  $f \in F$ .

The problem of multi-objective optimization is reduced to an extremal problem for a scalar exponent if the set  $X$  consists of a single element  $y^0$  and optimal choice of element  $x^0 \in X$  is determined from the condition of finding the extremum  $f(x) = f(x|y^0)$  on  $x \in X$ .

**Key definitions.** We will assume that the vector function

$$f(\cdot) = \{f_1(\cdot), \dots, f_m(\cdot)\}$$

given on the subset  $D$  finite-dimensional Euclidean space  $E^m$ . Through  $I$  the sets of indices  $\{1, 2, \dots, m\}$ . Thus, we define the following binary relations for  $m$ - dimensional vectors  $a, b$ :

$$\begin{aligned} a \cong b &\Leftrightarrow a_i \cong b_i, & i = 1, 2, \dots, m, \\ a > b &\Leftrightarrow a_i > b_i, & i = 1, 2, \dots, m, \\ a \geq b &\Leftrightarrow a_i \geq b_i, a \neq b, & i = 1, 2, \dots, m, \\ a \succ b &\Leftrightarrow b \not\cong a. \end{aligned}$$

Note that the last relation is not transitive: obviously  $a \succ b$  if and only if  $a = b$ , or when there is  $i \in I$  such as  $a_i > b_i$ . Let  $a, b \in E^m$ . We will use the following notation:  $(a, b)$  – dot product of vectors,  $\|a\|$  - euclidean vector norm [1, 2].

**1. Determination of efficiency.**

For definiteness, we will consider the maximization problem. According to the well-known definition, the point  $x^0 \in D$  is called effective with respect to the vector function  $f$  on the set  $D$ , if doesn't exist  $x \in D$ , for which the following inequality holds:

$$f(x) \geq f(x^0).$$

**Lemma 1 [3].** Relation  $a \cong b$  for the vectors  $a, b \in E^m$  takes place if and only if there is a vector such that:

$$M = \{\mu \in E^m | \mu > 0, \sum_{i=1}^m \mu_i = 1\},$$

such as  $(\mu, a) \cong (\mu, b)$ .

**Proof of necessity.** Let  $a \cong b$ . If  $a = b$ , then the statement of the lemma is valid for any  $\mu$ . Let for some  $j \in I$  the inequalities  $a_j > b_j$  are held. Let's define the number

$$t = \max\{p, q\} \cong 0,$$

where  $p = \sum_{i \neq j} |a_i|, q = \sum_{i \neq j} |b_i|$ .

Consider various cases by the value of the parameter  $t$  separately.

If  $t = 0$ , then  $(\mu, a) \cong (\mu, b)$  for any  $\mu \in M$ ; if  $t > 0$ , we may define  $r$  as the following:

$$r = \frac{a_j - b_j}{2t} > 0,$$

hence we have:

$$(a_j - b_j) = 2tr \cong r(p + q),$$

from which

$$a_j - rp \cong b_j + rq,$$

similarly we obtain

$$a_j + r \sum_{i \neq j} a_i \cong b_j + r \sum_{i \neq j} b_i,$$

so we have  $(\mu, a) \cong (\mu, b)$  while  $\mu_j = \frac{1}{1+r}$  except all the cases, when  $i \neq j$ , in that way one shall use  $\mu_i = \frac{r}{1+r}$ .

**Sufficiency proof.** If  $a = b$  is right, those fair  $a < b$ , it is obvious that  $(\mu, a) < (\mu, b)$  for anyone  $\mu > 0$ .

Note that using the introduced relation  $\succsim$  the definition of an effective point can be rephrased as follows: point  $x^0$  effective if for any  $x \in D$  the relation holds:

$$f(x^0) > f(x).$$

Thus, thanks to Lemma 1, we arrive at the following new formulation of the definition of an effective point.

**Definition 1.** Solution  $x^0 \in D$  effective in relation to  $f$  on the set  $D$  if and only if for a given  $x^0$  there is a vector function  $\mu(\cdot)$ , that for all  $x \in D$  the following conditions are met:

$$\begin{aligned} \mu(x) &\in M \\ (\mu(x), f(x^0)) &\succsim (\mu(x), f(x)). \end{aligned}$$

If we impose certain requirements on the form of the vector function  $\mu(\cdot)$ , then, using the definition, we can obtain new sufficient efficiency conditions without any assumptions about the functions  $f$  and  $D$ .

**Lemma 2.** If there is a finite set of vectors  $\mu_i \in M, i = 1, 2, \dots, p$  such that for everyone  $x \in D$  find your index  $i \in \{1, 2, \dots, p\}$  at which the inequality holds:

$$(\mu^i f(x^0)) \succsim (\mu^i f(x)),$$

then the decision  $x^0$  is effective.

## 2. Determination of self-effectiveness.

Let  $n = 1, m = 2, f_1 = x, f_2 = -x^2, D = [0, +\infty)$ . It is easy to understand that for the effective point  $x = 0$  there is no finite set of vectors from Lemma 2. Thus, in the general case, the conditions of this lemma are not necessary conditions for efficiency. However, if we restrict ourselves to considering the actual effective points, then these conditions will be both sufficient and necessary for  $p = m$ .

**Definition 2.** Effective point  $x^0$  is called properly effective if there is such a number  $N > 0$ , what's for everyone  $x \in D, i \in I$ , for which

$f_i(x) > f_i(x^0)$  and some  $j \in I$ , for which  $f_j(x) < f_j(x^0)$  the inequality holds:

$$f_i(x) - \frac{f_i(x^0)}{f_j(x^0)} - f_j(x) \leq N.$$

If the set  $D$  contains a finite number of elements, then each effective point is the same as effectively. The conditions under which each effective point coincides with the proper effective point are found in [4].

**Theorem 1.** Solution  $x^0 \in D$  actually effective with respect to  $f$  on the set  $D$  if and only if there are vectors  $\mu_i \in M, i = 1, 2, \dots, m$  such that for everyone  $x \in D$  there is a vector  $\mu^i$ , at which the inequality holds:

$$(\mu^i f(x^0)) \succ (\mu^i f(x)).$$

**Proof.** We will assume that  $f_i(x^0) = 0_m$ . It follows from definition (2) that the effective point  $x^0$  is actually effective if and only if there is a number  $N > 0$  such that for everyone  $i \in I$  the following system of inequalities is inconsistent on the set  $D$ :

$$\begin{aligned} f_i(x) &> 0, \\ f_i(x) + Nf_j(x) &> 0, j = 1, 2, \dots, m, j \neq i. \end{aligned}$$

**Sufficiency proof.** According to lemma (2), the point  $x^0$  effective. Let's prove its own effectiveness. Let's take the number

$$N = \max \left\{ m \frac{\mu_j^i}{\mu_k^i} \right\} > 0,$$

where the maximum is taken over all  $i, j, k \in I$ . If solution  $x^0$  is not effectively effective, then for this number  $N$  there is an index  $k \in I$  and solution  $x^1 \in D$  such as:

$$\begin{aligned} f_k(x^1) &> 0, \\ f_k(x^1) + Nf_j(x^1) &> 0, \quad j = 1, 2, \dots, m, j \neq i. \end{aligned}$$

Further, let  $I_0 = \{j \in I | f_j(x^1) < 0\}$ . Due to the effectiveness of the solution  $x^0$  is held  $I_0 \neq \emptyset$ . from the above system we have the following inequality:

$$mf_k(x^1) + N \sum_{j \in I_0} f_j(x^1) > 0.$$

In addition, by the hypothesis of the theorem, for a given  $x^1$  there is a vector  $\mu^i \in M$  such that  $(\mu^i, f(x^1)) \leq 0$ , therefore we have the following inequality:

$$\mu_k^i f_k(x^1) + \sum_{j \in J_0} \mu_j^i f_j(x^1) \leq 0,$$

which can be converted using an expression for  $N$ :

$$m f_k(x^1) + N \sum_{j \in J_0} f_j(x^1) \leq 0,$$

which obviously contradicts the previously obtained expression (where the same amount was strictly greater than 0). Thus, the sufficiency has been proven.

**Proof of necessity.** Let solution  $x^0$  be actually effective, i.e. there is a number  $N > 0$  such that for any  $i \in I$  system of inequalities

$$\begin{aligned} f_k(x^1) &> 0, \\ f_k(x^1) + N f_j(x^1) &> 0, \quad j = 1, 2, \dots, m, j \neq i. \end{aligned}$$

inconsistent on  $D$ . Take an arbitrary point  $x \in D$ . For each  $i \in I$  executed either  $f(x) \leq 0$ , either  $f_i(x) + N f_j(x) \leq 0$  with some  $j \in I, j \neq i$ . Summing over  $i \in I$  all such inequalities, we get:

$$N_1 f_1(x) + \dots + N_m f_m(x) \leq 0,$$

where  $N_i > 0$  for any  $i \in I$ . This implies the inequality for  $f(x^0) = 0_m$  and:

$$\mu^i = \bar{\mu}^i = \left( \frac{N_1}{\sum_{i=1}^m N_i}, \dots, \frac{N_m}{\sum_{i=1}^m N_i} \right).$$

It's obvious that  $\bar{\mu}^i \in M$ . Thus, for everyone  $x \in D$  there is a vector  $\mu^i = \bar{\mu}^i$ , and due to the finiteness of the set  $I$  the number of such vectors is finite. those. there is a finite set of vectors  $(\bar{\mu}^1, \dots, \bar{\mu}^p) \subset M$ , possessing the property that for each  $x \in D$  there is an index  $i \in I$ , at which the above relation is fulfilled.

Let us indicate a set of  $m$  vectors with the necessary properties. Let be

$$\varepsilon = \min_{ij} \bar{\mu}_j^i.$$

Consider vectors of the following form:

$$\bar{\mu}_j^i = \begin{cases} \varepsilon, & j = 1, 2, \dots, m; j \neq i, \\ 1 - (m - 1)\varepsilon, & j = i, i = 1, 2, \dots, m. \end{cases}$$

It's obvious that  $\bar{\mu}^i \in M, i, j = 1, 2, \dots, m$ , it is easy to verify that the old set of vectors is contained in the convex hull of the new set of vec-

tors, i.e.  $\{\bar{\mu}^1, \dots, \bar{\mu}^p\} \subset \text{conv}\{\mu^1, \dots, \mu^m\}$ . However, we can assume that the new set of vectors does not have the necessary properties, that is, there is such a point  $x \in D$ , that:

$$(\mu^j, f(x)) > 0, j = 1, 2, \dots, m.$$

For any  $i \in \{1, 2, \dots, p\}$  due to the inclusion  $\{\bar{\mu}^1, \dots, \bar{\mu}^p\} \mu^i \subset \text{conv}\{\mu^1, \dots, \mu^m\}$  there is a representation  $\bar{\mu}^i = \sum_{j=1}^m \lambda_j \mu^j$  with some  $\lambda_j \geq 0, j = 1, 2, \dots, m, \sum \lambda_j = 1$ . Thus, from the above we obtain the inequalities:

$$\sum_{j=1}^m \lambda_j (\mu^j, f(x)) = (\bar{\mu}^i, f(x)) > 0, i = 1, 2, \dots, p,$$

which mean that the old set of vectors does not have the necessary properties either. This contradicts the previously obtained conditions that  $(\bar{\mu}^i, f(x)) \leq 0$ .

If the set  $D$  consists of a finite number of elements, then the conditions of the proved theorem are necessary and sufficient conditions for efficiency, and not only for its own efficiency.

An analysis of the proof of the necessity of Theorem 1 shows that in the formulation of this theorem the vectors  $\mu^1, \dots, \mu^m$  can always be considered vectors of the form  $\bar{\mu}^1, \dots, \bar{\mu}^p$ . if, in addition, take into account the condition: point  $x^0$  is weakly effective if and only if for any  $x \in D$  there is a number  $i \in I$  such that  $f_i(x^0) \geq f_i(x)$ , then we come to the following statement.

**Consequence 1.** To point  $x^0 \in D$  was actually effective in relation to  $f$  on the set  $D$ , necessary and sufficient for such  $\varepsilon > 0$ , that solution  $x^0$  weakly efficient with respect to the vector function

$$\varepsilon \left( (\mu^1, f(\cdot)), \dots, (\mu^m, f(\cdot)) \right),$$

where vectors  $\mu^j$  presented on set  $D$ .

Using this corollary and the theorem of Yu.B. Germeier, we obtain the following.

**Consequence 2.** Let  $f(x^0) > 0_m$ . Solution  $x^0 \in D$  actually effective with respect to  $f$  on the set  $D$  if and only if there is such  $\varepsilon > 0$ , what equality

$$\min_{i \in I} \lambda_i (\mu^i, f(x^0)) = \max_{x \in D} \min_{i \in I} \lambda_i (\mu^i, f(x))$$

holds for some  $\lambda \in M$ .

In the case of a convex feasible set and a concave objective vector function, the effective point itself is characterized by the fact that for it there is exactly one vector  $\mu$  for the entire set of feasible points. This statement is the content of the well-known theorem of A.M. Joffrion. Here it is derived as a consequence of Theorem 1.

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## INFLUENCE OF A DRUNKEN DRIVER ON ROAD SAFETY

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**Annotation.** This article analyzes the statistics of road accidents involving drivers under the influence of alcohol in the Russian Federation and the Belgorod region over the past four years. The main measures to identify drunk drivers and minimize the consequences of their presence in the traffic flow are presented on the example of some foreign countries and the Russian Federation.

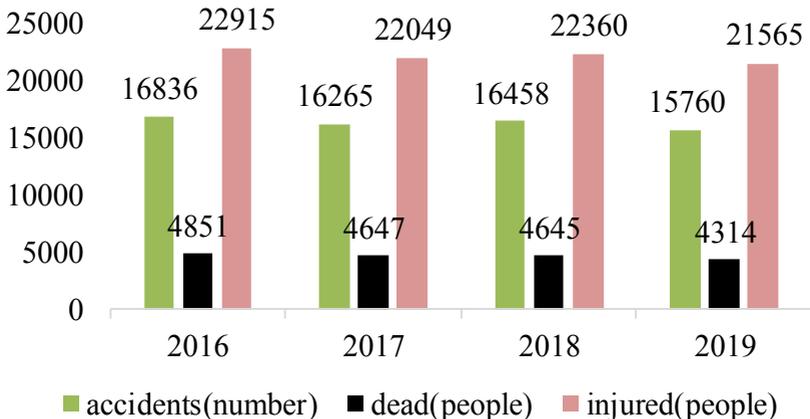
**Keywords:** statistics, motorization, vehicle, traffic accident, alcohol intoxication, road safety.

Today, there are a large number of road accidents in the world, and due to the continuous growth of motorization in recent years, the number of car owners has increased significantly [1]. Accidents on road transport in Russia are considered to be the most acute socio-economic and demographic problem, which is a real threat to the national security of the country. There are many causes of accidents: unfavorable road conditions, vehicle malfunction, unsatisfactory condition and quality of roads, violation of traffic rules, drivers or pedestrians who are under the influence of alcohol, drugs or other intoxication. The latter, in particular, driving a vehicle under the influence of alcohol (Fig. 1), is a fairly common cause of accidents.

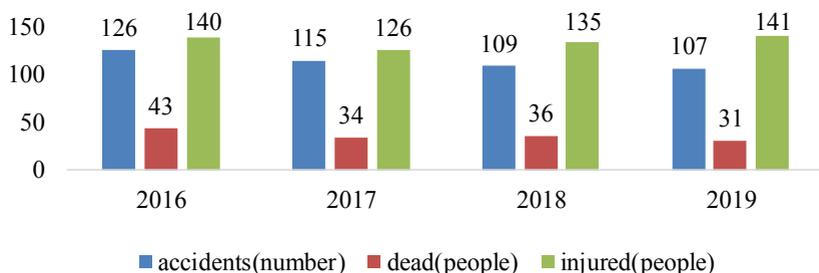


**Figure 1. Driving under the influence of alcohol**

The above fact is confirmed by official accident statistics for the Russian Federation (RF) (Fig. 2) and for the Belgorod region (Fig. 3) [2]. Based on the statistics below, it can be seen that the number of accidents involving drivers who are intoxicated, and, as a result, the number of dead and injured, is gradually decreasing. A similar situation is happening in the Belgorod region.



**Figure 2. Statistics on the number of accidents involving drivers under the influence of alcohol in the Russian Federation for 2016-2019.**



**Figure 3. Statistics on the number of accidents involving drivers under the influence of alcohol in the Belgorod region for 2016-2019.**

As a result of taking alcohol, including even a small dose of it, the memory, vision and hearing of the leader decreases, and very often their ability to react quickly and accurately in a dangerous situation is overestimated. So, in order to reduce the number of drunk drivers on the roads and reduce the consequences of driving in this state, certain measures are applied.

In the legislation of foreign States used two approaches to criminal penalties drunk drivers in some countries crime is considered to be the fact of driving vehicle in a condition of alcoholic, narcotic or other intoxication, in others – the presence in actions of such person of a crime requires a sign of repetition or administrative prejudice, i.e. criminal prosecution is possible only if a drunk driver drives a vehicle Repeatedly for a certain period of time, having an administrative penalty for the same offense, or an outstanding criminal record for a similar crime [3].

For example, in Canada and the United States, special equipment «UberSafeKiosk» («Hubert security Kiosks») is installed on city streets (Fig. 4), which allows doubting drivers to determine the level of intoxication by blowing the device. If the amount of alcohol exceeds the limit set by local laws, the kiosk automatically provides the user with a free ride. Often, these kiosks are installed at various festive events and festivals, being a promotion and at the same time implementing the company's mission to reduce the number of alcohol-related deaths on the road. Also, the uber service Conducts anti-alcohol campaigns and promotes the «sober driver» service. For example, uber has Launched an advertising campaign «UberorDrive» in Yekaterinburg. Visitors to the institution were charged with special business cards-breathalyzers developed in collaboration with RedPepperCreative. And in 2016, together with the chain of restaurants «Jean-Jacques» in Moscow, a limited collection of home-made wine was released, the labels of which depict scenes of car accidents [4].



**Figure 4. «UberSafe Kiosk» («Hubert security Kiosk»)**

In France and Switzerland, bills are currently being discussed to introduce special sanctions for driving with drugs or alcohol in the driver's blood. At the same time, in the vast majority of countries, the police do not have devices for detecting such substances in the human body immediately on the road. Among European countries, only Belgium and Switzerland have such technical means. A urine sample is taken for analysis, but the Belgian police note the inconvenience of working with existing devices. In the Netherlands, similar devices have been tested, but due to the same restrictions, they are practically not used [5].

Specific experience of fighting drunkenness at the wheel developed in Malaysia. So, along with the driver of the vehicle who committed the violation in question, his spouse is arrested. Modern realities and principles of Russian criminal law do not allow bringing to justice not guilty persons, however, according to the authorities of the above-mentioned country, the wife of such a driver will pay close attention to preventing the repetition of such facts in the future [6].

In Russia, at the present stage, the criminal law policy is focused on the adequacy of the assigned measures of a criminal law nature and optimization of the process of exemption from criminal liability, punishment and its subsequent serving [7]. According to article 264.1 of the criminal code of the Russian Federation, a violation by a person driving a car, tram, or other mechanical vehicle and being intoxicated, traffic rules, or operating a vehicle that caused the death of a person by negligence is punishable by imprisonment for a term of five to twelve years with deprivation of the right to hold certain positions or engage in certain activities for up to three years (Fig. 5) [8].



**Figure 5. Consequences of drunk driving in the form of imprisonment**

As you can see, in many countries, the problem of driving under the influence of alcohol is acute. And each of them uses different methods to combat drunk driving. Thanks to these measures, you can significantly reduce the number of drivers in a state of alcohol or other intoxication and, accordingly, improve road safety.

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## SYSTEMIC FORMATION OF PUBLIC ADMINISTRATION INSTITUTIONS

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**Abstract.** The register of state institutions is formed by the classification of management buildings, which provide the basic conditions for the formation of types of management buildings. A typology is a prerequisite in organizing uniform and specific requirements, containing the main characteristics for this direction of public buildings. The classification features reveal typological differences and optimal opportunities in the design for the formation of the architecture of management buildings: from central government to administrative bodies at the regional and municipal levels. Public administration institutions cover all legal institutions of power, production, cultural and social activities. The internal structural organization of management institutions is based on providing a management function.

**Keywords:** public administration buildings; regional and municipal levels of government, management units; main, auxiliary, and service premises.

The main basis for the formation of the classification of government bodies is the Decree of the President of the Russian Federation of May 12, 2008 № 724 "Issues of the system and structure of federal executive bodies", the structure of the executive power was determined. On the basis of the structure of the institutions of executive power and the distribution of public administration, a classification of buildings for the administration of executive power is proposed, which consists of independent institutions for the administration of the executive power of the Russian Federation. Management institutions are considered according to the distribution of management functions. They are presented in four blocks:

I. BLOCK. This block includes: the Residence of the President of the Russian Federation, as well as executive authorities, the activities of which are led by the President of the Russian Federation. The material fund of the administrative buildings is provided for the executive authorities. These

should include representative office buildings: the Ministry of Internal Affairs of the Russian Federation; Ministry of Foreign Affairs of the Russian Federation; Ministry of Defense of the Russian Federation; Ministry of Justice of the Russian Federation.

II. BLOCK. This block includes federal executive bodies, whose activities are managed by the Government of the RF. For these executive authorities, a material base is provided, containing representative complexes of management buildings. These include management institutions: Ministry of Health and Social Development of the RF; Ministry of Culture of the RF; Ministry of Education and Science of the RF; Ministry of Natural Resources and Environment of the RF; Ministry of Industry and Trade of the RF; Ministry of Regional Development of the RF; Ministry of Communications and Mass Media; Ministry of Agriculture of the RF; Ministry of Sports, Tourism and Youth Policy of the RF; Ministry of Transport of the RF; Ministry of Finance of the RF; Ministry of Economic Development of the RF; Ministry of Energy of the RF.

III. BLOCK. This block includes federal agencies and federal services, which are managed by the Government of the Russian Federation. This level of government includes: Federation of the Antimonopoly Service; Federation of Customs Service; Federal Tariff Service; Federal Service for Financial Monitoring; Financial Service for Financial Markets; Federal Space Agency; Federal Agency for the Development of the State Border of the Russian Federation; Federal Agency for Fisheries; Federal Service for the Regulation of the Alcohol Market; Federal Service for Environmental, Technological and Nuclear Supervision.

IV. BLOCK. At the regional level of the RF, the following classification of management buildings is proposed for the executive government of the region of the RF: Residence of the President of the region of the RF; Regional governments of the RF; Prefectures of administrative districts of the RF; District authorities (municipal level) of the RF.

The institutions of state administration of the executive power of the RF are distributed according to the hierarchy, which is formed according to the typological principle: from the Central state power of the RF to the municipal level of government of the RF.

For institutions of the state level of executive power, a unified composition of premises is proposed.

The premises of the structural education of the institutions of management of the executive power should be subdivided into:

- a) the premises of the chief official;
- b) management apparatus;

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c) premises of the general purpose - offices of officials, offices of deputy heads of departments and work rooms;

d) premises for auxiliary purposes - meeting rooms, conference rooms, rooms for waiting, reception and negotiations, premises for telecommunications, computing centers, archives, personnel department, pass bureaus, etc.;

e) service premises - lobbies, information rooms, administration premises, service rooms, toilets, service personnel premises, etc.

The office of an official consists of several zones: a working area (a desktop with an armchair), a meeting area, storage of expositions and a zone for official receptions and negotiations.

Premises for the main purpose of control buildings should be located on any floors, but not below the first floor.

In management buildings, auxiliary premises are formed depending on the professional activity. Ancillary premises include those associated with the support function of management institutions. Among them, one should distinguish large and ceremonial rooms that are intended for representative events: - these are conference rooms with adjacent corridors, exhibition and showrooms, lobbies with wardrobes and halls. The ceremonial premises include premises for official receptions: a banquet hall with additional service rooms.

Meeting rooms should be provided for control units in control buildings. The meeting rooms are designed for workshops led by senior staff from the institutions. Premises for conference rooms should be located on the first and second floors, but not higher than the 5th floor.

In the space-planning formation of management buildings, a complex functional and technological process should be envisaged, which is associated with the professional activities of employees, the movement of information and documentation flows. In the design assignment, technical services should be provided, which consist of data centers, browsers, teletypewriters, printing houses. The premises for serving purposes include copying and duplicating services, departments for the release and distribution of documentation, archives, technical libraries.

Service premises - archives, technical libraries - should be provided in a compact arrangement. Archives with visitor service rooms, technical libraries consisting of repositories, subscriptions, reading room and office space. The composition and number of premises of the archive and technical libraries depend on the storage fund and are determined by the design assignment.

In management buildings with a compact plan layout, one lobby is ar-

ranged. Separate lobbies are allowed for central and regional administration buildings, which require independent entrances.

For service personnel, there should be lobbies with wardrobes and halls, catering facilities: a canteen, a cafe, a buffet with auxiliary rooms, and personal hygiene rooms.

Sanitary facilities for the leadership of the main staff should be provided at the offices.

The organization of the entrance to sanitary facilities should be arranged through vestibules (sluices) with self-closing doors. The area of sanitary facilities is determined by calculation according to the design assignment.

Representative complexes of management institutions are formed on the basis of specific features: representative management function, technological compositional communication scheme, design and symbolic form-building component. The architectural composition is built according to an open compositional scheme on a functional, constructive and symbolically formalized basis.

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## HYDROPONIC GREEN FODDER, FEEDS VALUES AND ECONOMY

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**Annotation.** Provides information about the cultivation of hydroponic green feeds. The analysis of milk production of cows when they feed with (HGF). Use of funds for the growing of HGF.

**Keywords:** milk production, hydroponic green fodder, productivity, feed value.

The main criterion for milk production of cows is based on its breed, but milk production depends on heredity for up to 20-30% and 70-80% milk production of cows depends on care. For a cow to produce a lot of milk, it needs to be feed properly. The amount of feed consumed reflected in milk production, a cow requires 50 to 80 kg of feed per day; moreover it is important to diversify the diet:

- Grain and concentrated feed (barley, wheat, cake);
- Succulent feed (silage, beets, grass);
- Coarse feed (hay, straw).

A sufficient volume of dry food is equal to 3-3.5% of the weight of an animal. The correct rate of succulent feed is considered as 6-8 kg per 100 kg of the weight of an animal.

Concentrates are added based on the daily milk production: up to 100 g per 1 litre of milk. Feed the cows three times per day in compliance with approximately the same schedule [1, 2].

Logically, during summer seasons, the availability of food supply is good due to rough and succulent feed, however roughage feeds predominates during winter season, thus milk production falls and we count losses. To increase milk production during winter season, when the grass is not

growing, we decided to use hydroponic green feeds (HGF). HGF contains natural vitamins, macro and microelements, regulated in composition and phytotherapeutic facilities. Year-round use of (HGF) in the diet of cattle and other animals: increases the intensity of metabolism in the body and the activities of enzymes for digestion of other feeds; they normalize the pH of the rumen (prevention of acidosis); promote lipolysis (prevention of fatty liver degeneration); to a large extent they provide vitamins and minerals that are natural and necessary at the same time, and; mobilize immunity; effectively increase reproductive capacity breeding stock; rejuvenate the body and prolong productive longevity of animals [3].

We analysed the amount of nutrients in hydroponic green fodder barley and compound feed of KK-65 brand. The data are summarized in Table 1.

**Table 1. Comparative nutrient composition of dry matter hydroponic feed barley and mixed feed in dry matter.**

indicator	Hydroponic feed, in 1 kg CB	Feed barley in 1 kg CB	KK-65 (Compound feed) in 1 kg CB
Exchange energy, M / J	12,0	10,7	10,31
Crude protein , g	206,87	106,15	150,1
Lysine , mg	7,36	4,00	4,91
Methionine , mg	3,66	1,8	2,36
Serine , mg	6,29	0,49	0,55
Cystine , mg	2,47	1,25	1,32
Sugar , g	206,03	5,61	33,03
Crude oil, g	60,36	23,56	29,0
crude fibre, g	129,62	48,26	91,9
Crude ash, g	50,11	27,42	28,2
calcium, g	8,07	0,60	0,82
phosphorous, g	8,12	3,5	3,95
Magnesium, g	1,47	0,95	1,22
Sodium, g	0,25	0,11	0,12
Zinc, mg	54,53	26,25	27,02
Selenium, mg	0,29	0,05	0,10
Vitamin B1, mg	13,68	0,78	0,81
Vitamin B2, mg	18,90	1,25	1,42
Vitamin BC mg	8,09	1,27	1,30
Vitamin E, mg	325,75	13,71	14,9
Carotene, mg	55,12	3,25	3,9

According to the table, it is clear the greater nutritional values are of hydroponic feed. To justify the values of hydroponic feed, an experiment was carried out in which 2 groups of cows (experimental and control) of the Holstein breed took part. In each the group consisted of 20 individuals, which are completely and clinically healthy. The diet of both groups consisted of one type of hay and silage, but the diet of the control group in addition include concentrated feed together with premix and mixed feed (12 kg / head), crushed corn (4 kg / head), sunflower cake (3 kg / head) and mineral supplement (200 g / head). The control group has compound feed and mineral the additive was replaced with hydroponic barley greens (12 kg / head). Cows fed two times per day.

The experiment lasted 305 days. During the period, they kept records of milk production every 10 days and the results of the experiment are shown in table 2.

**Table 2. Milk productivity of cows for 305 days of lactation**

indicators	group	
	Controlled	experimental
Number of heads	20	20
Weight of a head., kg	599	597
Milk yield for 305 days of lactation of a head., kg	9101,3	9650,3
Average daily milk yield, kg	29,84	31,64
Gross production, c	1820	1930
Mass fraction of fat, %	3,71	4,11
Milk fat content, %	675,2	793,2
Mass fraction of proteins, %	2,85	3,20
Milk protein content, kg	518,7	617,6
Milk factor, %	1519,4	1616,5

The study showed that the milk production of cows in the experimental group was 6% higher compared to the control cows. The average daily milk production of cows in the experimental group was higher by 6%, fat mass fraction in milk - by 0.4%, protein mass fraction - by 0.35%. It can also be noted that the value of milk become higher, which means it can increase in price for sale.

Thus, hydroponic feed can easily replace compound feed and mineral supplement. It is reach in micro and macro elements which are very well absorbed. I would also like to note the cheapness of this feed compared to other compound feeds.

The quality of this type of HGF is added by watering during preparation and germination of the feeds [4,5].

A typical technological process for growing HGF includes compulsory stage of seed preparation using aerobic activation air and disinfection of vegetative mass [6].

Growing g hydroponic green feed on automated complexes - is a technology for the intensive development of the fodder base of agricultural enterprises, because yield from each sown kilogram of grain, on average, 5-7 kg green mass.

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