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МЕДИЦИНА И ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ

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ASSESSMENT OF THE DYNAMICS OF HOSPITALIZED MORBIDITY CHILDREN IN THE FIRST YEAR OF LIFE

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ABSTRACT. In order to assess the hospitalized morbidity in children of the first year of life, an assessment of the rates of hospitalization and the average length of stay of a patient in a bed, depending on the type of hospitalization, the profile of beds and the class of diseases according to ICD-10 in dynamics over three years was made. To analyze the data, information obtained from the medical information system "Ariadna" by sampling 3371 children was used. Inclusion criteria: permanent residence in St. Petersburg, hospitalization in the first year of life in 2020–2022. It was found that the highest frequency of emergency hospitalizations was observed in the year of the onset of the COVID-19 pandemic. Patients of the first year of life who were admitted urgently stayed in the hospital for less time than planned patients. Most often, patients were hospitalized in ophthalmic, pediatric and surgical beds, which accounted for 2/3 of all hospitalizations in the children's multidisciplinary hospital during the study period. The children spent the longest time in other beds, among which the largest contribution was made by resuscitation beds for newborns. High rates of average length of stay were observed in neuropsychiatric, pediatric and surgical beds. Children with congenital anomalies (malformations), deformities and chromosomal abnormalities ranked first in the frequency of admission to the hospital, second and third places — with diseases of the skin and subcutaneous tissue and respiratory diseases, which grew during the studied time interval. The lowest rate of hospitalizations and the average length of stay in intensive care was observed in the year of strict quarantine restrictions, which was associated with the predominance of patients from the obstetric hospital of the perinatal center and emergency children with a general decrease in the flow of patients from medical organizations of the metropolis. Thus, the indicators of hospitalized morbidity were significantly affected by the COVID-19 pandemic, the presence of a perinatal center in the structure of a children's multidisciplinary hospital, and the children's hospital performing the functions of a third-level medical organization.

KEY WORDS: children of the first year of life; children's multidisciplinary hospital; frequency of hospitalizations; average length of stay of a patient in a bed; metropolis.

ОЦЕНКА ДИНАМИКИ ГОСПИТАЛИЗИРОВАННОЙ ЗАБОЛЕВАЕМОСТИ ДЕТЕЙ ПЕРВОГО ГОДА ЖИЗНИ

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РЕЗЮМЕ. Для анализа данных госпитализированной заболеваемости детей первого года жизни была проведена оценка показателей частоты госпитализации и средней длительности пребывания больного на койке в зависимости от типа госпитализации, профиля коек и класса болезней по МКБ-10 в динамике за три года. Для анализа данных были использованы сведения, полученные из медицинской информационной системы «Ариадна», путем выборки 3371 ребенка. Критерии включения: постоянное проживание в г. Санкт-Петербурге, госпитализация на первом году жизни в 2020–2022 гг. Установлено, что наиболее высокая частота экстренных госпитализаций наблюдалась в год начала пандемии COVID-19. Пациенты первого года жизни, поступившие экстренно, находились в стационаре менее длительно, чем плановые больные. Наиболее часто пациенты госпитализировались на офтальмологические койки, койки педиатрических и хирургических профилей, на долю которых в исследуемый период приходилось 2/3 всех госпитализаций в детский многопрофильный стационар. Наиболее длительно дети находились на прочих койках, среди которых наибольший вклад внесли реанимационные койки для новорожденных. Высокие показатели средней длительности пребывания прослеживались на психоневрологических, педиатрических и хирургических койках. На первом месте по частоте госпитализаций в стационар были дети с врожденными аномалиями (пороками развития), деформациями и хромосомными нарушениями, на втором и третьем местах — с болезнями кожи и подкожной клетчатки и болезнями органов дыхания, которые в течение изучаемого временно́го интервала росли. Самый низкий показатель частоты госпитализаций и средней длительности пребывания в реанимации наблюдался в год строгих карантинных ограничений, что было связано с преобладанием пациентов из акушерского стационара перинатального центра и экстренно поступивших детей при общем снижении потока больных из медицинских организаций мегаполиса. Таким образом, на показатели госпитализированной заболеваемости оказывали существенное влияние пандемия COVID-19, наличие перинатального центра в структуре детского многопрофильного стационара и выполнение детской больницей функций медицинской организации третьего уровня.

КЛЮЧЕВЫЕ СЛОВА: дети первого года жизни; детский многопрофильный стационар; частота госпитализаций; средняя длительность пребывания больного на койке; мегаполис.

INTRODUCTION

The struggle for the life and health of each newborn becomes especially important in the context of demographic problems, when the birth rate is much lower than the mortality rate and further population decline may become a problem of state security [2, 3]. According to the Unified Plan for Achieving National Development Goals of the Russian Federation, reducing infant mortality is a key component of increasing life expectancy [6].

The priority of child health care is one of the fundamental principles of national health care, which guarantees special protection for children [8]. In modern conditions, the protec-

tion of motherhood and childhood is a priority for the health care system of the Russian Federation [7]. To increase the indicator of child health at the state level, a significant number of programs are being developed, among which is the Federal project "Development of children's health care, including the creation of modern infrastructure of medical care for children" [9].

The project envisages the development of infrastructure for the organization of medical care for children in children's polyclinics, children's polyclinic departments and the construction (reconstruction) of regional, district and republican children's hospitals. Thus, in case health deviations occur, our country ensures that children are provided with the necessary medical care of adequate quality and accessibility.

There is no doubt that the first year of life is the most important stage in the formation of a person's future health. During the first 12 months there is a rapid development of all organs and systems. Moreover, the infant adapts to the outside world. That is why early detection of diseases and pathological conditions is especially important for timely provision of medical care to a child [5]. The current system of children's health care is represented by a wide network of medical organizations, it is fully capable to meet the needs of the pediatric population [11]. Hospital institutions, which have been equipped with modern equipment in different Russian regions over the past few years, play a special role in the system of medical care for the pediatric population [1]. Specialized, including high-tech, medical care for children provided in inpatient settings of children's hospitals is the most resource-intensive sector of children's health care [10]. Advanced techniques and scientific developments are actively introduced into practical healthcare in the course of providing this type of medical care [4]. In addition, multidisciplinary children's hospitals are provided with the most highly qualified medical personnel.

Thus, the assessment of the dynamics of hospitalized morbidity in children of the first year of life is a relevant topic for research since the first year of life is extremely important period for the formation of the child's future health and, concurrently, children's hospitals are important in the system of providing specialized medical care to the pediatric population.

AIM

To evaluate the dynamics of hospitalized morbidity in children of the first year of life in 2020–2022.

MATERIALS AND METHODS

The base of this study was a multidisciplinary pediatric hospital of the Federal State Budgetary Educational Institution of Higher Professional Education "St. Petersburg State Pediatric Medical University" of the Ministry of Health of Russia (SPbSPMU), which belongs to the third-level hospitals. Information obtained from the Ariadna medical information system was used for data analysis by sampling children hospitalized during the first year of life in 2020–2022. Inclusion criteria: hospitalization in the first year of life in a pediatric multidisciplinary hospital of SPbSMU and permanent residence of the child in St. Petersburg. Thus, 3371 children were selected for the research: 1124 children in 2020, 1119 children in 2021, 1128 children in 2022. The average age of the hospitalized patient was 5.35±0.10 months, sex distribution: boys — 57.3%, girls — 42.7%.

Hospitalized morbidity was assessed by analyzing the frequency of hospitalizations and the average length of stay of a patient in a bed depending on the type of hospitalization, bed profile, classes of diseases in accordance with ICD-10 and intensive care stay. For this purpose, extensive and intensive indicators, arithmetic weighted mean and its error were calculated. The reliability of differences in the indicators was assessed using Student's criterion. Differences were considered significant at $p < 0.05$. Statistical processing of data was performed using MS Office 2016 and STATISTICA 10.0 software.

RESULTS AND DISCUSSION

The assessment of the frequency of hospitalizations depending on their type showed (Table 1) that 654.80 for every 1,000 of discharged infants were urgently hospitalized in the year of the COVID-19 pandemic onset, whereas from 2021 onwards, health care organizations have fully adapted to the new conditions and the prevalence of planned admissions has increased.

Table 1

The frequency of hospitalization and the average length of stay of a patient in a bed, depending on the type of hospitalization in 2020–2022 (in ‰ (abs.) and M±m)

Таблица 1

Частота госпитализации и средняя длительность пребывания больного на койке в зависимости от типа госпитализации в 2020–2022 гг. (в ‰ (абс.) и M±m)

Тип госпитализации / Type of hospitalization	2020 год / year		2021 год / year		2022 год / year		Динамика / Dynamics	
	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration
Экстренная / Emergency	654,80 (736)	5,81±0,57	467,38 (523)	8,16±1,17	464,54 (524)	4,71±0,30	–29,1	–18,9
Плановая / Planned	345,20 (388)	6,86±0,52	532,62 (596)	8,39±0,48	535,46 (505)	8,08±0,56	+35,5	+15,1

* Статистически значимая разница между показателями 2020 и 2022 гг. (p <0,05).

In 2021, the level of planned hospitalization increased by 28.6% compared to a previous year, and in 2022 it slightly decreased by 0.6%. In general, over the three years, the decrease in the flow of emergency patients was 29.1%. Assessment of the average length of stay of a patient in a bed depending on the type of hospitalization revealed that patients admitted in a planned manner stayed in the hospital for a longer period of time. The greatest difference between the average length of stay of children of the first year of life in the hospital was observed in 2022, when it was 2 times longer than the period of emergency hospitalization (p <0.05). At the same time, the duration of planned hospitalization increased by 15.1% between 2020 and 2022, while the duration of emergency hospitalization decreased by 18.9%. Despite this difference, in 2021, the average length of stay of patients admitted for emergency hospitalization was almost equal to the planned one.

Patients were most frequently hospitalized in ophthalmology, pediatric and surgical beds (Table 2), which accounted for 2/3 of all hospitalizations in the pediatric multidisciplinary hospital in 2020–2022. Over the three years, the level of hospitalizations of children in these beds decreased, along with psychoneurological and other beds, which was determined by an increase in the frequency of hospitalizations in infectious diseases beds, as well as dermatology and otolaryngology beds. Assessment of the average length of stay of patients in a bed depending on their profile revealed that during the research period, infants had the longest stay in other beds, with neonatal intensive care beds contributing the most. In 2020, the highest average length of stay was in neuropsychiatric (9.75±1.75 days) and pediatric (9.63±2.21 days) beds. Evaluation of the dynamics of indicators revealed that compared to 2020, in 2022, the average length of stay increased most significantly in pediatric beds (+41.2%), otolaryngology (+34.6%) and ophthalmology beds (+15.7%). At the same time, children spent less time in hospital in infectious diseases (–38.1%), surgery (–23.4%) and dermatology beds (–26.9%).

The frequency of hospitalization and the average length of stay of a patient in a bed, depending on the class of diseases according to ICD-10 (Table 3) were studied in the course of the study. It was revealed that during the whole research period children with congenital malformations, deformations and chromosomal abnormalities were in the first place in terms of frequency of hospitalizations, while the second and third places were occupied by diseases of the skin and subcutaneous tissue and diseases of the respiratory organs, which increased during 2020–2022. In addition to them, the rate of hospitalization of patients with certain conditions originating in the perinatal period (+42.3%) and diseases of the skin and subcutaneous tissue (+22.3%) increased significantly during the study period. The frequency of hospitalizations of children with endocrine, nutritional and metabolic diseases and diseases of the eye and adnexa decreased most significantly (by

Table 2

The frequency of hospitalization and the average length of stay of a patient in bed depending on the type of bed profile in 2020–2022 (in ‰ (abs.) and M±m)

Таблица 2

Частота госпитализации и средняя длительность пребывания больного на койке в зависимости от типа профиля коек в 2020–2022 гг. (в ‰ (абс.) и M±m)

Профиль коек / Bed profile	2020 год / year		2021 год / year		2022 год / year		Динамика / Dynamics	
	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration
Педиатрические / Pediatric	205,52 (231)	5,66±1,63	207,33 (232)	10,53±2,50	198,58 (221)	9,63±2,21	–3,4	+41,2
Хирургические / Surgical	243,78 (278)	10,10±4,03	197,51 (78)	15,64±5,97	172,87 (213)	7,74±2,12	–29,1	–23,4
Инфекционные / Infectious	88,97 (100)	10,40±3,80	171,58 (192)	9,69±0,20	153,37 (173)	6,44±1,62	+42,0	–38,1
Психоневрологические / Psychoneurological	19,58 (22)	8,82±1,62	9,83 (11)	9,10±1,92	6,2 (7)	9,75±1,75	–68,3	+9,5
Дерматологические / Dermatological	51,60 (58)	7,13±0,45*	61,66 (69)	5,58±0,37	85,11 (96)	5,21±0,39*	+39,4	–26,9
Отоларингологические / Otolaryngological	31,14 (35)	2,80±0,52	33,96 (35)	3,42±0,74	46,99 (53)	4,28±0,67	+33,7	+34,6
Офтальмологические / Ophthalmic	245,55 (276)	1,72±0,13	198,39 (222)	2,21±0,19	198,58 (224)	2,04±0,19	–19,1	+15,7
Прочие / Other	110,32 (124)	14,05±6,96	119,75 (134)	19,63±7,13	98,4 (111)	14,20±2,58	–10,8	+1,1

* Статистически значимая разница между показателями 2020 и 2022 гг. (p <0,05) / Statistically significant difference between the indicators 2020 and 2022 years (p <0,05).

4.2 times). In addition, there was a 1.4-fold decrease in hospitalizations for diseases of the genitourinary system, a 1.3-fold decrease for diseases of the digestive system, and a 1.7-fold decrease for diseases of the blood, hematopoietic organs and certain disorders involving the immune mechanism.

As previously mentioned, the longest period of stay among the children of the first year of life was in the intensive care beds for newborns (Fig. 2), which is determined by the presence of a perinatal center in the structure of the children's multidisciplinary hospital as well as hospitalization and medical evacuation of critically ill patients of the first month of life in the third-level children's hospital. The assessment of the frequency of hospitalizations of children in intensive care in 2020–2022 revealed that the highest value of indicators was observed in 2021, when the hospitalization rate reached 66.13 per 1,000 hospitalized infants under one year of age (Fig. 1). The lowest rate of emergency care hospitalizations was in the year of strict quarantine restrictions. This was attributed to the predominance of patients from obstetric hospitalization as well as to a decrease in the flow of patients from medical organizations of St. Petersburg. Overall, the frequency of intensive care unit hospitalizations decreased by 16.3% over the three years.

Evaluation of the average length of stay of children in intensive care beds showed that during the studied period these indicators were also influenced by the pandemic . In 2020, children admitted mainly from the obstetric hospital

Table 3

The frequency of hospitalization and the average length of stay of a patient in a bed, depending on the class of diseases according to ICD-10 in 2020–2022 (in ‰ (abs.) and M±m)

Таблица 3

Частота госпитализации и средняя длительность пребывания больного на койке в зависимости от класса болезней по МКБ-10 в 2020–2022 гг. (в ‰ (абс.) и M±m)

Класс болезней по МКБ-10 / Class of diseases according to ICD-10	2020 год / year		2021 год / year		2022 год / year		Динамика / Dynamics	
	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration	Частота / Frequency	Средняя длительность / Average duration
I Некоторые инфекционные и паразитарные болезни / Certain infectious and parasitic diseases (A00–B99)	21,35 (24)	5,63±1,19*	17,87 (20)	8,25±1,77	22,16 (25)	11,40±5,32*	+3,7	+50,6
III Болезни крови, кроветворных органов и отдельные нарушения, вовлекающие иммунный механизм / Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	74,73 (84)	13,33±11,34	44,68 (50)	8,60±1,81	44,33 (50)	16,33±8,31	–40,7	+78,1
IV Болезни эндокринной системы / Endocrine, nutritional and metabolic diseases (E00–E90)	25,80 (29)	6,31±2,53*	10,72 (12)	14,42±2,28	6,21 (7)	11,28±6,65*	–75,9	–15,4
VII Болезни глаза и его придаточного аппарата / Diseases of the eye and adnexa (H00–H59)	99,64 (112)	1,93±0,23*	17,87 (20)	4,55±1,03	23,94 (27)	5,89±0,94*	–76,0	+67,2
X Болезни органов дыхания / Diseases of the respiratory system (J00–J99)	117,44 (132)	6,51±0,64	147,45 (165)	9,05±2,70	122,34 (138)	6,49±0,53	+4,0	–0,3
XI Болезни органов пищеварения / Diseases of the digestive system (K00–K93)	105,87 (119)	4,26±0,83	95,62 (107)	5,07±0,95	79,79 (90)	6,61±1,74	–24,6	+35,6
XII Болезни кожи и подкожной клетчатки / Diseases of the skin and subcutaneous tissue (L00–L99)	97,86 (110)	4,65±0,40	105,45 (118)	4,37±0,29	125,89 (142)	4,01±0,31	+22,3	–13,8
XIV Болезни мочеполовой системы / Diseases of the genitourinary system (N00–N99)	85,41 (96)	10,31±0,83	80,43 (90)	12,74±1,54	62,06 (70)	10,80±0,82	–27,3	+85,5
XVI Отдельные состояния, возникающие в перинатальном периоде / Certain conditions originating in the perinatal period (P00–P96)	44,48 (50)	13,72±3,15*	64,34 (72)	10,06±1,18	77,13 (87)	9,69±1,94*	+42,3	–29,3
XVII Врожденные аномалии (пороки развития), деформации и хромосомные нарушения / Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	238,43 (268)	6,54±0,78*	292,23 (327)	7,43±0,71	287,23 (324)	4,67±0,35*	+17,0	-28,6
Прочие / Other	6,23 (7)	9,13±2,96	6,26 (7)	13,8±15,66	3,55 (4)	10,13±3,00	–43,0	+9,9

* Статистически значимая разница между показателями 2020 и 2022 гг. (p <0,05).

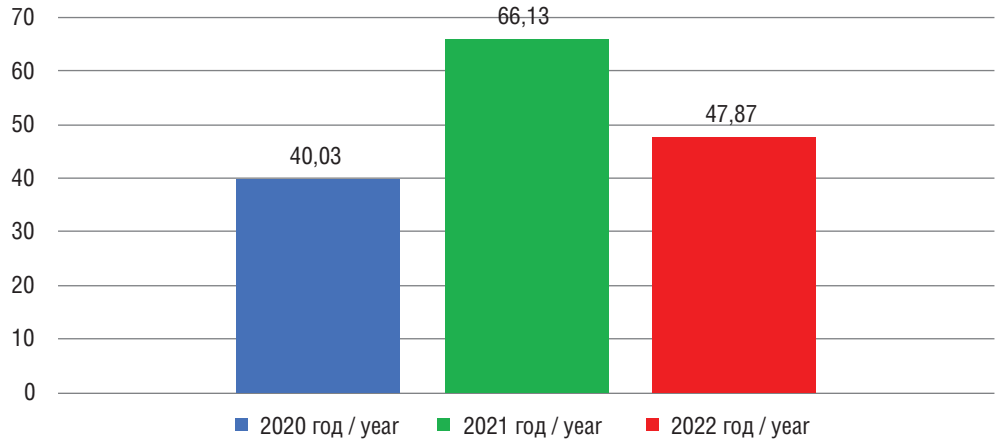

Fig. 1. The frequency of hospitalizations in intensive care in 2020–2022 (in ‰)

Рис. 1. Частота госпитализаций в реанимацию в 2020–2022 гг. (в ‰)

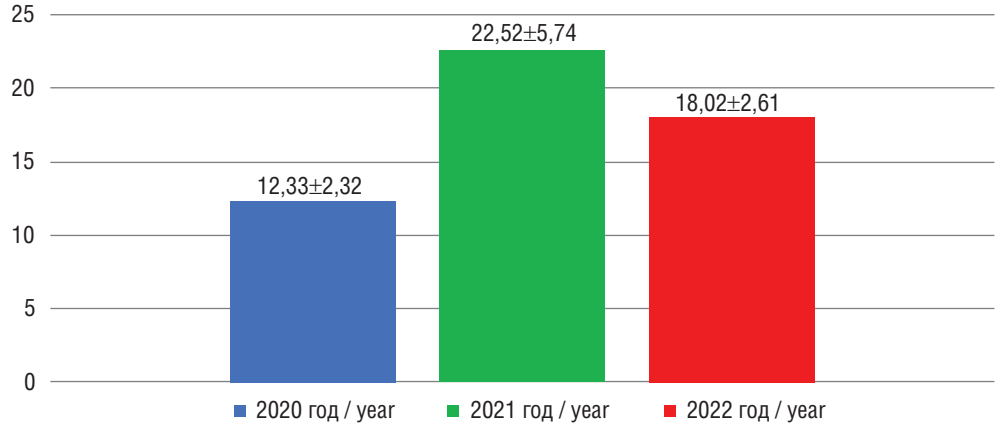

Fig. 2. Average length of stay on a bed in intensive care in 2020–2022 (M±m)

Рис. 2. Средняя длительность пребывания на реанимационных койках в 2020–2022 гг. (в ‰)

of the perinatal center stayed in intensive care beds less than in the subsequent years studied (12.33±2.32 days). In 2021, hospitalizations of critically ill patients from medical organizations and those delivered by ambulance (emergency) increased, the average time of stay in emergency units among children under 1 year old rose by 45.5% to the level of 2020 and by 31.6% in 2022.

Thus, the assessment of hospitalized morbidity indicators revealed that the frequency and duration of hospital bed stays of children in the first year of life were affected by the COVID-19 pandemic, the presence of a perinatal center in the structure of a pediatric multidisciplinary hospital, as well as the level of the hospital and related functional features of the medical organization.

CONCLUSION

1. The highest rate of emergency hospitalizations was observed in the year of COVID-19 pandemic onset. From 2021 onwards, planned hospitalizations became predominant, and the flow of emergency patients dropped by 29.1% over the three years. Patients admitted on a planned basis had a longer hospital stay than those hospitalized urgently. The average length of planned hospitalization increased by 15.1% between 2020 and 2022, while emergency hospitalization decreased by 18.9%.

2. Patients were most frequently hospitalized in ophthalmology beds, pediatric and surgical beds, which accounted for 2/3 of all hospitalizations in a pediatric multidisciplinary hospital during the research period. Over the three

years, the rate of hospitalizations of children in these beds has been decreasing due to a significant increase in the frequency of hospitalizations in infectious diseases, dermatology and otolaryngology beds. Children spent the longest time in other beds, among which neonatal intensive care beds contributed the most. High average length of stay was also observed in psychoneurological, pediatric and surgical beds. Over three years, the average length of stay in pediatric, otolaryngology and ophthalmology beds increased significantly, while it decreased in infectious diseases, surgery and dermatology beds.

3. Children with congenital anomalies (malformations), deformations and chromosomal disorders were in the first place in terms of frequency of hospitalizations, while the second and third places were taken by diseases of the skin and subcutaneous tissue and diseases of the respiratory system, which were on the rise during the studied period. At the same time, the frequency of hospitalizations of children with diseases of the endocrine system, diseases of the eye and adnexa decreased by 4.2 times.

4. The lowest rate of hospitalizations and average length of stay in intensive care units was observed in the year of strict quarantine restrictions, which was due to the predominance of patients from the obstetric hospital of the perinatal center and emergency children, with a general decrease in the flow of patients from medical organizations of St. Petersburg. Over three years, the frequency of hospitalizations and the average length of stay in intensive care decreased by 16.3 and 31.6%, respectively.

Thus, the conducted research of hospitalized morbidity rates showed the influence of the COVID-19 pandemic, the presence of a perinatal center in the structure of the children's multidisciplinary hospital, and the role of the third-level medical organization.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

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Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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COVID-19 PANDEMIC CONCLUSIONS RELEVANT FOR PROJECT MANAGEMENT IN HEALTH CARE

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ABSTRACT. On the example of the analysis of indicators of the Federal project "Fight against Cardiovascular Diseases", organizational problems of implementation of design methods of management in health care are considered. Federal projects proved undoubted growth of funding health care and of volumes of the provided medical care. However, despite the huge additional amounts of financing, results of implementation of the project remain quite uncertain. Demographic losses failed to bereduced, the quality of medical care worsens, population expenses on paid medical services grow. Special concern is caused by high level of mortality of working-age population, especially among males. This phenomenon in both modern social-economic and geopolitical conditions becomes catastrophic as having an important negative impact on provision of society with labor resources, and defense capability of the country. In the conditions of an infectious pandemic health care system becomes extremely dependent on decisions and financing from the state budget. Therefore in crucial situations it is necessary to change structure and the assignment of expenses, exercise not only correction of target indicators, but also flexible planning which in case of emergency situations will provide the maximum clinical and cost efficiency of medical activity.

KEY WORDS: design method of management; national projects in a health care field; COVID-19 pandemic; efficiency of expenses on health care; public health; blood circulatory system diseases.

УРОКИ ПАНДЕМИИ COVID-19 ДЛЯ ПРОЕКТНОГО УПРАВЛЕНИЯ В ЗДРАВООХРАНЕНИИ

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РЕЗЮМЕ. На примере анализа показателей федерального проекта «Борьба с сердечно-сосудистыми заболеваниями» рассмотрены организационные проблемы применения проектных методов управления в здравоохранении. Показано, что за счет реализации мероприятий федеральных проектов существенно увеличились государственные расходы на здравоохранение и объемы оказываемой населению медицинской помощи. Однако, несмотря на огромные дополнительные объемы финансирования, результаты реализации проекта остаются довольно неопределенными. Демографические потери остановить не удается, качество медицинской помощи ухудшается, расходы населения на платные медицинские услуги растут. Особую тревогу вызывает высокая смертность населения в трудоспособном возрасте, особенно среди лиц мужского пола. Это явление в современных социально-экономических и геополитических условиях приобретает катастрофический характер, так как оказывает значительное влияние на обеспеченность общества рабочей силой, обороноспособность страны. В условиях инфекционной пандемии система здравоохранения становится чрезвычайно зависимой от действий и финансирования со стороны государственного бюджета. И поэтому в кризисных ситуациях необходимо изменять структуру и направления расходов, осуществлять не только корректировку целевых показателей, но и гибкое планирование, которое на случай чрезвычайных ситуаций обеспечит максимальную клиническую и экономическую эффективность медицинской деятельности.

КЛЮЧЕВЫЕ СЛОВА: проектный метод управления; национальные проекты в сфере здравоохранения; пандемия COVID-19; эффективность расходов на здравоохранение; общественное здоровье; болезни системы кровообращения.

INTRODUCTION

The project method of public management is a long-term approach to the organization of activities of executive authorities in order to implement a system of planned political decisions aimed at overcoming any problems in various sectors of the national economy, ensuring the sustainability of the government and society to external and internal challenges and threats. The principles of project management imply the need to follow specific rules and regulations, which, on the one hand, allows to build an effective control system, on the other hand, does not allow to react flexibly to the changing situation when solving tactical tasks [8].

The project, as well as program-targeted method of planning and management is a system methodology that allows solving complex multi-purpose problems, as well as involves the coordination and effective use of financial, material, technical and human resources to achieve specific goals within a certain time frame [10]. The project method contributes to the harmonious development of certain spheres of life in the Russian society and helps the state to allocate budget funds more specifically to achieve the goals of public policy, primarily — in the social sphere [5, 24]. Goal programming (GP) is used to regulate and ensure the operation of various systems of medical care both in Russia, and in foreign countries [30]. The COVID-19 pandemic, which began in 2020, has led to the emergency in the public health system and, without any doubt, has affected the success of achieving the goals set for the health care system within the framework of state programs and projects. In this regard, the research is relevant sonce it is aimed to identify the problems of using project management methods in public health during infectious pandemics.

The aim is to provide decision makers with evidence which they can use to develop and implement effective policies, programs and interventions that improve the health care organization.

MATERIALS AND METHODS

The study covered the period from 2017 to 2021. The sources of information were data from the federal statistical observation form No. 14 “Information on the activities of units of medical organizations providing medical care in inpatient settings”, No. 30 “Information on medical organization”, which presents the results of state medical organizations in the constituent entities of the Russian Federation.

The data on federal budget financing were obtained from the database “Public Expenditures” [27]. The target indicators of the federal project “Combating Cardiovascular Diseases”

(hereinafter referred to as the federal project (FP) "CCD") were obtained from the passport of the federal project [11]. The source of information on mortality is provided by Rosstat data on the population and the number of deaths by age and nosological forms. The working age is considered to be: for men — from 15 to 59 years old, for women — from 15 to 54 years old. The indicators of the FP "CCD" were calculated in accordance with the order of the Ministry of Health of the Russian Federation from 31.03.2021 No. 278 "On approval of methods for calculating the basic and additional indicators of the federal project "Combating Cardiovascular Diseases" [21]. Correlation and regression analysis was used to study the relationship between the indicators. The review of domestic and foreign literature was conducted according to the following databases: PubMed, Web of Science, Scopus, RSCI.

RESULTS

The National Project "Healthcare" was developed to fulfill the Decree of the President of the Russian Federation No. 204 dated 07.05.2018 "On the national goals and strategic objectives of the development of the Russian Federation for the period until 2024". According to the Russian Treasury, the total federal budget expenditures for the financial provision of federal projects in the field of healthcare for the six-year period amount to 1,725.8 billion rubles, 80% of which are federal budget funds.

Table 1

Actual and target values of indicators of the federal project "Fight against Cardiovascular Diseases"

Таблица 1

Фактические и плановые показатели федерального проекта «Борьба с сердечно-сосудистыми заболеваниями»

Наименование показателя / Name of an indicator	**Тип показателя / Indicator type**	**2017 год / year**	**2018 год / year**	**2019 год / year**	**2020 год / year**	**2021 год / year**
Количество рентгенэндоваскулярных вмешательств в лечебных целях, тыс. ед. / The number of rentgenendovaskulyar interventions in the medical purposes, one thousand pieces	Фактический / Actual	199,7	217,0	253,0	222,0	252,0
	Целевой / Target	–	–	238,1	257,5	276,9
Отношение числа рентгенэндоваскулярных вмешательств в лечебных целях к общему числу выбывших больных, перенесших острый коронарный синдром, % / The relation of number of rentgenendovaskulyar interventions in the medical purposes, to the total number of the discharged patients diagnosed with sharp coronary syndrome, %	Фактический / Actual	34,2	37,8	48,9	54,7	64,9
	Целевой / Target	–	–	43,0	46,5	50,0
Доля профильных госпитализаций пациентов с острыми нарушениями мозгового кровообращения, доставленных автомобилями скорой медицинской помощи, % / Share of cross-sectional hospitalization of the patients with intense violations of brain blood circulation delivered by emergency medical service, %	Фактический / Actual	69,6	77,9	82,8	85,1	85,5
	Целевой / Target	–	–	76,0	79,0	83,0
Больничная летальность от острого инфаркта миокарда, % / Hospital lethality from anacute myocardialin farction, %	Фактический / Actual	14,3	14,0	13,2	14,8	13,6
	Целевой / Target	–	–	11,7	11,0	10,2
Больничная летальность от острого нарушения мозгового кровообращения, % / Hospital lethality from intense violation of brain blood circulation, %	Фактический / Actual	19,2	19,6	18,5	21,2	20,7
	Целевой / Target	–	–	17,6	16,9	16,2

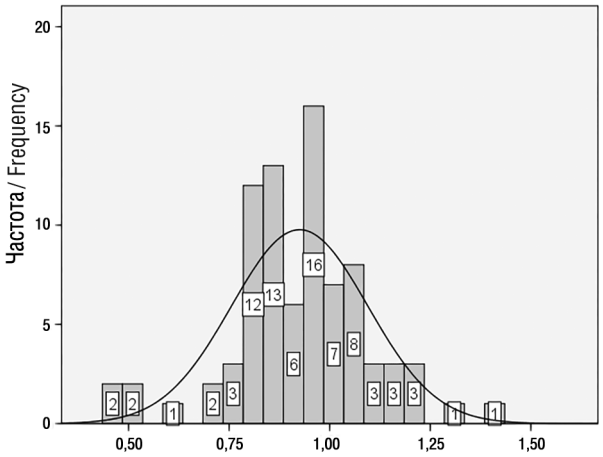

Fig. 1. Distribution of number of regions of the Russian Federation taking into account the size of coefficient of a ratio of volumes of rentgenendovaskulyar interventions in 2020 by 2019

Рис. 1. Распределение числа субъектов РФ с учетом размера коэффициента соотношения объемов рентгенэндоваскулярных вмешательств в 2020 г. к 2019 г.

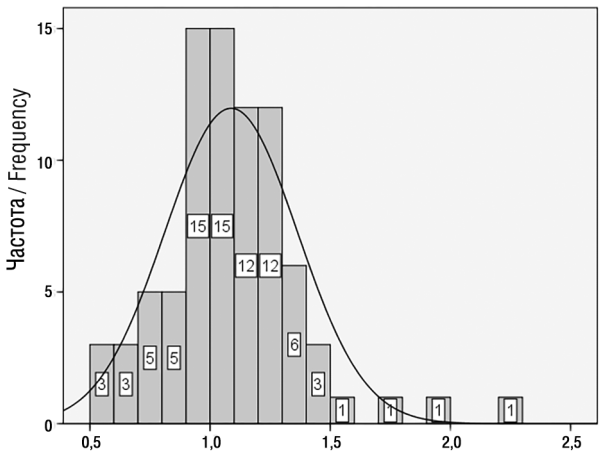

Fig. 2. Distribution of number of subjects of the Russian Federation taking into account the size of coefficient of a ratio of volumes of rentgenendovaskulyar interventions in 2021 by 2019

Рис. 2. Распределение числа субъектов РФ с учетом размера коэффициента соотношения объемов рентгенэндоваскулярных вмешательств в 2021 г. к 2019 г.

The structure of financial support for the national project "Healthcare" is based on expenditures of such federal projects as "Fighting Cancer" (969.0 billion rubles, or 56.0%), "Development of Children's Healthcare" (211.2 billion rubles, or 12.2%), "Creation of a Unified Digital Circuit in Healthcare" (177.6 billion rubles, or 10.2%). The federal project "Combating Cardiovascular Diseases" (the FP "CCD") is expected to spend the least amount of funds — RUR 75.2 billion (RUR 15.0 billion per year), or 4.4% of the total amount. The actual and target values of the indicators of the FP "CCD" are presented in Table 1.

The number of X-ray endovascular interventions for therapeutic purposes increased by 26.2% in the Russian Federation over the five-year period. An average annual growth rate accounted to 7%. Taking into account the population, in 2021, the number of X-ray endovascular interventions for therapeutic purposes increased 1.4 times — from 115.1±62.1 in 2017 to 160.8±61.2 per 100 thousand people. The average annual growth rate of the indicator amounted to 9.3% per year. The most significant increase in the number of researches was noted in 2019. It was the first year when the national project "Healthcare" was implemented — the number of researches increased from 147.7 to 172.3 per 100 thousand people in 2018 and 2019, respectively. It is worth noting that despite the strict restrictive measures that led to an overall decrease in the number of hospitalizations in 24-hour hospitals [8], in 2020, the volume of X-ray endovascular interventions increased in 23 subjects of the Russian Federation out of 85, compared to the previous year (Fig. 1). In 2021, 50 subjects of the RF increased volumes of X-ray endovascular interventions, that is two times more, than in 2019 (Fig. 2).

The volumes of X-ray endovascular interventions increased by more than 20% in 2020 compared to 2019 in the following regions: Stavropol Territory, Republic of Dagestan, Ivanovo Region, Sakhalin Region, Voronezh Region. In 2021, there were following leaders of growing number of X-ray endovascular interventions in comparison with the "pre-pandemic" 2019: Voronezh Region, Republic of Dagestan, Ivanovo Region, Republic of Adygea, Republic of Crimea, Murmansk Region, Komi Republic, Chuvash Republic, Sakhalin Region, Vologda Region, Kursk Region, Rostov Region, Leningrad Region. These subjects of the Russian Federation showed a significant growth (30% or more) in the volume of X-ray endovascular interventions in 2021 compared to 2019.

During the first year of the COVID-19 pandemic, the number of X-ray endovascular interventions decreased by 10%, and in 2021 it rose

again and reached the level of 2019 — 252.0 and 253.0 thousand interventions, respectively. At the same time, the impact of COVID-19 prevalence in 2021 was much more severe than in 2020. For example, according to the federal state information system "The Unified State Register of Civil Status Records", 144.7 thousand people died from coronavirus infection caused by COVID-19 in 2020 and 465.5 thousand people died in 2021, which amounted to a 3.2-fold increase. However, the increase in interventions was insufficient to meet the targets throughout the research period. Thus, in 2019 the planned indicators were exceeded by 6.2% (253.0 thousand actual tests and 238.1 thousand planned tests), while the planned indicators had not been fulfilled by 13.8% in 2020, and by 9.0% in 2021.

It should be noted that the growth of coronary artery angioplasties is accompanied by an increase in postoperative lethality, which increased 1.83 times in the period from 2015 to 2021, and 1.3 times in the three-year period of the FP "CCD" implementation (from 2019 to 2021) (Table 2).

The value of the indicator "The ratio of the number of X-ray endovascular interventions for therapeutic purposes to the total number of discharged patients who underwent acute coronary syndrome" grew at an average rate of 17.5% per year for 5 years and increased from 34.2±20.8% in 2017 to 64.9±26.0% in 2021, which is almost 2-fold. This circumstance resulted in exceeding the federal project targets in 2019 by 13.7%, in 2020 — by 17.7%, and in 2021 by 29.7%.

The proportion of specialized hospitalizations of patients with acute cerebrovascular disorders delivered by ambulances increased by 22.7% over 5 years, from 69.64±25.3% in 2017 to 85.51±9.5% in 2021, most intensively in 2018 compared to 2017 — by 11.8%, and in subsequent years by an average of 3.2%.

Exceeding the planned indicators of the federal project in 2019 amounted to 9.0%, in 2020 — 7.7%, and 3.0% in 2021.

Hospital mortality from acute myocardial infarction ranged from a minimum of 13.2±4.2% in 2019 to a maximum of 14.8±5.0% in 2020. Over the entire follow-up period, the planned (target) indicators were exceeded in 2019 by 12.8%, in 2020 — by 34.8%, in 2021 — by 33.1%.

The hospital mortality from acute cerebral circulation disorder fluctuated from a minimum level of 18.5±4.1% in 2019 to a maximum level of 21.2±4.6% in 2020 during 5 years. Exceeded target indicators ranged from 5.3% in 2019 to 28.0% in 2021.

Taking into account the ratio of actual regional statistics to the target level, it is possible to identify regions that are both unconditional leaders and outsiders in terms of the level of performance of the federal project activities. For example, in 2021 the number of endovascular interventions for therapeutic purposes to the total number of discharged patients with acute coronary syndrome exceeded the target indicator of the same year by 2.9 times in Moscow, by 2 times in Kaliningrad region, by 1.7 and 1.4 times in the Republics of Bashkortostan and Mari-El, respectively. The rate of X-ray endovascular interventions for therapeutic purposes in the Jewish Autonomous Okrug is 13.5 times lower than the national average, taking into account the population size, and, correspondingly, the mortality from acute myocardial infarction

Table 2

Dynamics of the number of angioplasty coronary arteries operations, the number of patients (operations followed by death), the postoperative lethality, the Russian Federation, 2015–2021

Таблица 2

Динамика числа операций ангиопластик коронарных артерий, количества умерших пациентов после операций, послеоперационная летальность, Российская Федерация, 2015–2021 гг.

Показатель / Indicator	**2015 год / year**	**2017 год / year**	**2018 год / year**	**2019 год / year**	**2020 год / year**	**2021 год / year**
Число операций / Number of operations	156 271	199 735	216 988	252 957	222 017	251 977
Количество умерших пациентов, чел. / Number of patients died after operation, man	3126	4738	6107	7296	8023	9246
Послеоперационная летальность / Postoperative lethality, %	2,0	2,37	2,81	2,88	3,61	3,67

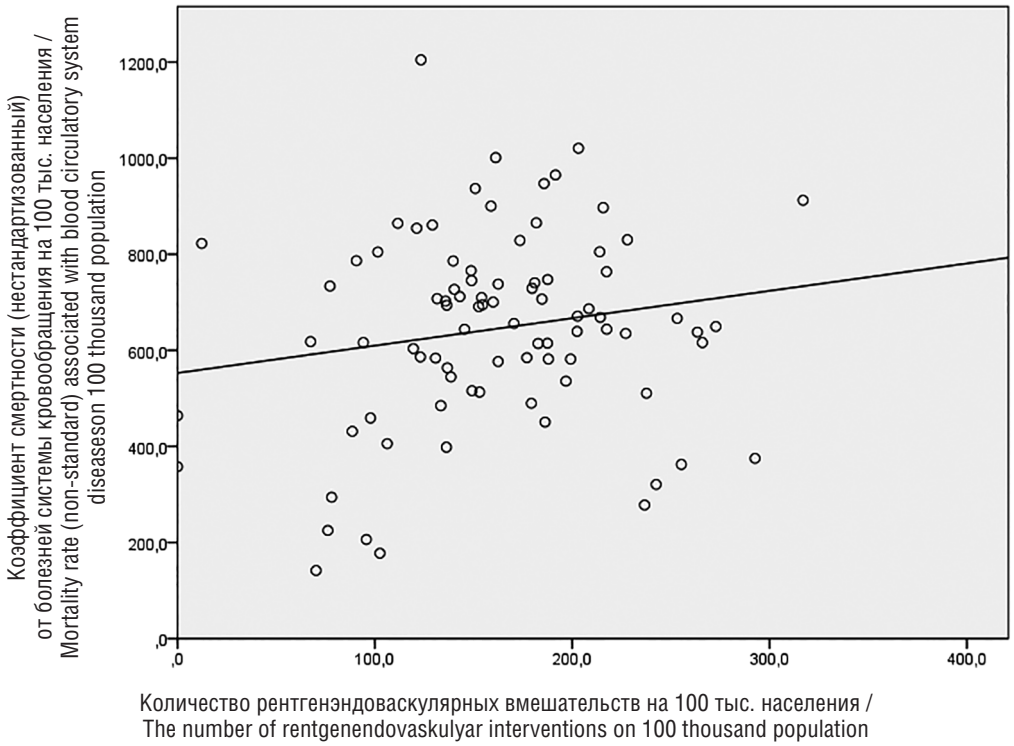

Fig. 3. The chart of regression between death rate from BSK and volumes of rentgenendovaskulyarny interventions per 100 thousand population (predictor) in 2021 in territorial subjects of the Russian Federation (n=85)

Рис. 3. Диаграмма регрессии между уровнем смертности от БСК и объемами рентгенэндоваскулярных вмешательств в расчете на 100 тыс. населения (предиктор) в 2021 г. в субъектах РФ (n=85)

is 2.2 times higher than the average Russian target indicator. Thus, the volume of X-ray endovascular interventions in the selected regions did not affect the mortality rate of the population from circulatory system diseases (CSD).

The results of correlation and regression analysis indicate that there is no relationship between the mortality rate from CSD and the volume of X-ray endovascular interventions on coronary arteries. For example, in 2021, the correlation and determination coefficients between the mortality rate from CSD (644.45±201.99 per 100,000 population) and the volumes of X-ray endovascular interventions (160.8±61.22 per 100,000 population) were 0.173 and 0.03, respectively. It means that maximum 3% of the variation of CDS mortality rate is caused by the volumes of X-ray endovascular interventions on coronary vessels in the subjects of the Russian Federation (p-level <0,001).

Figure 3 graphically presents dependences between the mentioned variables. The strength of the relationship between the variables can be judged by how closely the points-objects are located near the regression line — the closer the points, the stronger the relationship.

As shown in the diagram, the dispersions of all variables without exception are extremely large, their values are at a considerable distance from the regression line. Taking into account the very weak positive correlation between the mentioned features, we can conclude that X-ray endovascular interventions in coronary heart disease (CHD), 95% of which are performed to place a stent in a coronary arterial vessel, cannot be considered an effective "weapon" in the "fight" against cardiovascular diseases.

The COVID-19 pandemic resulted in enormous medical, economic and social costs as well as significant mortality. It adversely affected public health and triggered a considerable "shock" to both national and world economies, drastically reduced life expectancy and increased premature mortality. During the pandemic of the new coronavirus disease, the health care system experienced serious disruptions due to temporary cessation of routine hospitalizations, cancellation of routine medical procedures.

The need to implement large-scale programs to combat the spread of the new coronavirus infection and mitigate the economic impact of the

restrictive measures required changes in federal project target indicators.

On July 21, 2020. Vladimir Putin signed Decree No. 474 "On national development goals of the Russian Federation for the period until 2030". This Decree adjusted the long-term goals defined by Decree No. 204 of May 7, 2018. Adjustments for the worst were made both to the main target indicator on increasing life expectancy (73.7 years by 2024 instead of 80 years), and to other indicators, including the mortality rate from diseases of the circulatory system — 593.9 per 100,000 population by 2024 instead of 450.0 per 100,000 population. At the same time, the Ministry of Health of the RF did not make any amendments to the federal projects by April 2023.

DISCUSSION

The project method of management in health care was first used almost twenty years ago, when the Address of the President of the Russian Federation to the Federal Assembly of May 26, 2004, emphasized that "Russia lags behind many countries in terms of the most important health indicators. Thus, our life expectancy is 12 years lower than in the United States of America, 8 years lower than in Poland, and 5 years lower than in China. One of the main reasons for this state of affairs remains the inefficiency of domestic health care" [19].

The first national project in the field of health protection of citizens was called "Health". It was allocated in 2005 along with other projects — "Education", "Affordable and comfortable housing for the citizens of Russia" and "Development of agro-industrial complex". The Council for the implementation of priority national projects (hereinafter — the Council) was established, which was headed by V.V. Putin [28].

The main objectives of the national project "Health" were: the development of primary health care, revival of preventive health care, provision of the population with high-tech medical care.

The new approach to solving tasks and substantial financing of the national projects raised expectations of qualitative improvement in the health care system. For the first time the health care system received significant financial, material and technical resources. The implementation of the priority national project "Health" in the period 2005–2008 and the improvement of social and economic situation in Russia reduced the frequency of acute coronary syndrome by 9% (from 16.1 to 14.6), which saved the lives of 450 thousand citizens of our country. According to G.E. Ulumbekova (2012), even small annual investments in this project (10% of total government spending on health care) for 4 years caused positive changes in the state of public health [29].

However, the implementation of the national projects showed not only achievements, but also significant shortcomings, such as incomplete compliance of the project implementation mechanisms with the current legislation, imbalance in the amount of funding and set goals; contradictory results of the actions of federal and regional authorities; shifting the responsibility for the results by the federal authorities to the regional level [4, 13, 25]. Moreover, 10 years after the completion of the national project "Health", on August 20, 2019, at the meeting on the modernization of primary health care V.V. Putin mentioned: "If we keep the primary health care system in the condition in which it is still in, the number of heart attacks and strokes will not decrease, since there is a gap in the primary care system — that is the problem" [20].

The second national project in the field of health protection of citizens called "Healthcare" was developed by the Presidium of the Presidential Council for Strategic Development and National Projects to fulfill the Decree of the President of the Russian Federation dated May 07, 2018 No. 204 "On national goals and strategic objectives of the development of the Russian Federation for the period up to 2024".

The main goals of the project are to increase the population of the Russian Federation, as well as to increase life expectancy to 78 years by 2024 and to 80 years by 2030.

The first three years of the "Healthcare" project implementation (two of which coincided with the COVID-19 pandemic) showed that it was impossible to stop the growth of mortality. According to Rosstat, a total of 2138.5 thousand people died in Russia in 2020, which was 340.0 thousand more than in 2019, and in 2021 — 2441.6 thousand people, which was 643.3 thousand more than in "pre-pandemic" 2019.

At the same time, the number of births amounted to 1,436.5 thousand infants in 2020 and 1,398.2 thousand infants in 2021.

The country's population decline amounted to 702.0 thousand people in 2020 and 1,043.3 thousand people in 2021.

An alarming trend is a growing mortality rate of the working-age population. According to Rosstat, 450.3 thousand people died in the Russian Federation in the working age in 2020, which is 56.7 thousand more than, for example, in 2018. It concerns all classes of diseases and pathological conditions. In 2021, 479.5 thousand people died at working age. Thus, every fifth of the total number of deaths in 2021 (2.44 million people) was in working age. On average, the total mortality rate for the two pandemic years (2020 and 2021) compared to the two pre-pandemic years (2018 and 2019) increased from 1,234.4 to 1,558.0 deaths per 100,000 population (or 1.26 times). The total mortality rate among the working age population increased from 472.5 to 576.4 deaths per 100,000 population (or 1.21 times) to 548.2 and 604.6 deaths per 100,000 population in 2020 and 2021, respectively.

As the analysis showed, the frequency of the use of X-ray endovascular interventions for acute coronary syndrome has been growing significantly since 2017 and in 2019 exceeded the target indicators of the FP "CCD". As a result, on average, the actual values of this indicator exceeded the target values for the period from 2019 to 2021 by 1.2 times. At present, Russia is already close to such countries as Norway and Italy, and ahead of South Korea, Canada, Spain, Great Britain, and Portugal concerning the availability of endovascular interventions on coronary arteries [16].

Although the number of deaths from COVID-19 in 2021 increased more than threefold compared to the previous year, the volumes of stenting for acute coronary syndrome were equal this year to the "pre-pandemic" 2020. This phenomenon may indicate that the accumulated need for treatment in the first year of the pandemic met the population's demand for treatment, as well as the desire of medical organizations to perform the maximum volume of interventions for economic reasons. At the same time, none of the qualitative indicators, including hospital mortality, achieved the goals of the FP "CCD". The hospital mortality from acute myocardial infarction in 2021 reached 33.3%, and from acute cerebrovascular accident — 27.7%, which is higher than the target indicators.

COVID-19 may be one of the reasons contributing to the high mortality. As conducted researches have already shown, the outcomes for hospitalized patients with suspected or confirmed COVID-19 are significantly worse the outcomes of other patients treated for diseases of the circulatory system [7]. That is why it is reasonable to assume that COVID-19 is a factor that contributed to the deterioration of patients' condition and increased hospital mortality.

The COVID-19 pandemic emphasizes the importance of primary health care, which has a high potential to reduce mortality and increase the life expectancy of the population through preventive measures. Medical prevention programs have repeatedly proved their effectiveness in reducing mortality from diseases of the circulatory system. Targeted work in this area has great prospects and opportunities [23]. Unfortunately, at the same time, the amount of financing for preventive work in the modern Russian health care system is extremely small [15]. Judging by the set of target indicators of the federal project «Combating Cardiovascular Diseases», the project focuses on emergency and urgent medical care for patients with cardiovascular diseases in hospitals. This is another shortcoming of the federal project, which limits the fulfillment of the goals.

Another problem is related to the fact that elimination of negative phenomena in one sphere is accomplished at the expense of other spheres of medicine and health care. In the Russian Federation, as in other countries of the world, diseases of the circulatory system are the leading cause of death, but their share in the structure of causes of mortality is significantly higher [3]. The mortality level of the working-age population with a significant predominance of the male population caused by cardiovascular diseases remains high. [2, 9, 26]. In addition, people die from diseases of the circulatory system 3 times more often than from malignant neoplasm diseases (MND) annually.

For instance, in 2021, 2441.6 thousand people died in Russia, including 933.9 thousand people (38.2%) who died from diseases of the circulatory system. At the same time 279.0 thousand people (11.4%) died from MNDs. It is 3.3 times less than from CVDs. Excluding the number of deaths, where the age was not specified, the number of deaths from CVDs among the working age population is 2 times more

than from MNDs — 119.4 thousand people and 50.5 thousand people respectively. At the same time, men die 5 times more often from CVDs at working age than women, which allows us to consider diseases of the circulatory system as an important predictor of the decade-long gender gap in life expectancy that has persisted since the Soviet times [22].

It should be noted that, despite the introduction of substantial additional funding from federal projects, the volume of paid services to the population increased 1.42 times (from 5.27 thousand rubles in 2018 to 7.49 thousand rubles in 2021 per capita), exceeding 1.0 trillion rubles in 2021. At the same time, the share of paid medical services in the total structure of paid services to the population for the same period increased from 7.8% to 9.6%, or 1.2 times, against the background of a decrease in the amount of income and savings of the population [17]. The shadow market of paid medical services is incomparably larger [18]. This confirms the thesis that the deficit of public funding is not the main reason for the commercialization of health care. The Russian Federation provides citizens with the right to free medical care in an unlimited amount and of uncertain quality, in these conditions citizens tend to pay for the availability of quality medical services [1, 6, 12].

The COVID-19 pandemic also demonstrated that health care needs a modern concept of development, a new organizational and economic way of life, which can be called integral. The leading role should belong to the state, serving the interests of society, integrating medicine into health care, promoting the formation of a new economic model for solving social problems. The modern health care system should be built on a non-market basis. Nevertheless, it might involve private medical organizations [14].

CONCLUSION

Judging by the structure of state budget expenditures on the federal projects in the field of health care, the content and volume of medical care activities depending on needs of the population is weakening. The projects envisage the least amount of funding for the fight against circulatory diseases, which cause the greatest social and economic damage, annually causing more than 130,000 deaths of people who do not live to old age. The projects mainly focus on surgical treatment of complications of coronary heart disease by means of coronary artery stenting. The bulk of funding for federal health care projects is allocated to extremely expensive diagnostics and chemotherapeutic treatment of malignant neoplasms with uncertain clinical results.

However, a crisis situation such as a COVID-19 pandemic poses a host of challenges to health care facilities, such as shortages of personnel, infrastructure, medications and specialized protective equipment, supplies, and equipment. Any infectious pandemic makes the health system extremely dependent on actions and funding from the government budget, especially in the areas of spending money resources, problem solving and action plans.

The COVID-19 pandemic has shown the need for flexible emergency planning, including rapid restructuring of funding both for federal projects and for types of medical care. At the same time, the state should allow and incentivize only those medical entrepreneurships that benefit people and block those that violate the interests of public health.

Specific nature of medical services includes complex health care management, the lack of criteria for assessing the correctness of decisions and pressure of lobbying forces. Quantitative assessment of goals, methods and means of achievement should be based not on private criteria, but on a complete assessment of the outcomes. At the state level, it is necessary to give a clear definition of such a concept as “useful results of the health care system”. It is advisable to measure and evaluate these results with the help of statistical information which is valuable for management. For this purpose, it is necessary to select reliable indicators with different purposes. Indicators for internal assessment of work of a medical organization should differ from management assessment, since practicing physicians still have another level of interest and motivation than health care organizers. Some are interested in people’s diseases, while others are interested in their health. Indicators for internal control can reflect the state of clinical processes, while management indicators should reflect useful results of management activities in the field of public health protection, be clear and free from value judgments. It is also very important to ensure that decision-makers are accountable to the public for the results of financing, which is based on high culture and quality of public

administration. If these problems are not adequately solved, a private interest and irresponsibility will continue to grow in medicine and public health care, as well as a deficit of resources and lack of expected socially useful results.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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APPROACHES TO OPTIMIZING THE WORK OF A CHILDREN'S POLYCLINIC IN THE CONTEXT OF PANDEMIC

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ABSTRACT. The main directions of optimizing the work of a children's polyclinic in a pandemic are presented, which consist in maintaining the whole amount of preventive of work while excluding thecrossover of patients' tides and minimizing the number of visits to a healthcare institution. The prerequisites and the goal of innovations are revealed (carrying out preventive examinations at certain age periods, before referring a child to a psychological, medical and pedagogical commission, medical and social expertise), their effectiveness is shown. A variant of using electronic technologies to improve the compliance of the district pediatrician with the patients' families, early detection of mental health disorders in children aged 2 years is described. Approaches to the active detection of post-covoid health disorders in children and providing them with rehabilitation assistance are proposed.

KEY WORDS: children's polyclinic; children's health; new coronavirus infection.

ПОДХОДЫ К ОПТИМИЗАЦИИ РАБОТЫ ДЕТСКОЙ ПОЛИКЛИНИКИ В УСЛОВИЯХ ПАНДЕМИИ

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РЕЗЮМЕ. Представлены основные направления оптимизации работы детской поликлиники в условиях пандемии, заключающиеся в сохранении полного объема профилактического направления работы при исключении пересечения потоков пациентов и минимизации визитов в учреждение здравоохранения. Раскрыты предпосылки и суть нововведений (проведение профилактических осмотров в определенные возрастные периоды, перед направлением ребенка

на психолого-медико-педагогическую комиссию, медико-социальную экспертизу), показана их эффективность. Описан вариант использования электронных технологий для повышения комплаенса участкового педиатра с семьями пациентов, раннего выявления нарушений психического здоровья детей в возрасте двух лет. Предложены подходы к активному выявлению постковидных нарушений здоровья у детей и оказанию им реабилитационной помощи.

КЛЮЧЕВЫЕ СЛОВА: детская поликлиника; здоровье детей; новая коронавирусная инфекция.

INTRODUCTION

In 2020–2021, new forms of children's outpatient clinic (polyclinic) work were urgently needed due to the emerged pandemic of new coronavirus infection (NCVI). Owing to the long period of restrictions, the population postponed visiting institutions, including medical ones. The forced temporary reduction in the volume of preventive care changed a timeframe for preventive examinations of minors. At the same time, it was important to retain such examinations for children with serious health problems. In addition, parents of toddlers who were unable to visit their local pediatrician in person needed regular advice on the care, feeding, development and upbringing. Another problem was monitoring the health of children from social risk groups (families with disabled children, families and minors at risk, in difficult life situations, orphans and children under guardianship, pregnant women and those who gave birth before the age of 18).

Thus, in the current situation of pandemic and self-isolation, it was necessary to preserve the preventive measures for children's polyclinic as much as possible, while minimizing the number of visits and minimizing the time spent in a medical organization.

AIM

To substantiate approaches in order to optimize the work of children's polyclinics during the pandemic, as well as to provide comprehensive rehabilitation assistance to children who have undergone the new coronavirus infection (NCVI).

MATERIALS AND METHODS

The research included the analysis of medical records (f. 112/u) of 987 children aged two years to identify signs of mental developmental disorders, 868 children 0–17 years old who had undergone NCVI in 2020–2022, including 128 children who received rehabilitation treatment in the medical rehabilitation department for post-COVID health disorders. All children were patients of children's polyclinic No. 8 the Regional budgetary healthcare institution Ivanovskaya clinical hospital named after Kuvaevs in Ivanovo (RBHI ICH named after Kuvaevs). Parents were interviewed to assess their satisfaction with preventive medical care in the children's polyclinic. The survey was conducted anonymously and on a voluntary basis, after obtaining informed consent on a special form sent to the parents' e-mail address. The indicators characterizing the criteria for assessing the quality of care were the openness and accessibility of information about the medical organization, the comfort of providing medical services and its accessibility, the waiting time of medical services; friendliness, politeness and competence of the employees, and satisfaction with the services provided.

M-CHAT-R/F (Modified Checklist for Autismin Toddlers) — modified autism screening test for young children as a screening tool to assess the risk of autism spectrum disorder had a list of 20 control questions.

The duration of patients' stay in the outpatient clinic was assessed by means of timekeeping.

In addition, the statistical reporting documentation with the results of medical examinations of minors was evaluated.

RESULTS AND DISCUSSION

At the beginning of lockdown (from the beginning of April 2020), NCVI in children occurred in rare cases only, nevertheless it was decided to make changes in the organization of the children's polyclinic (Fig. 1).

At the beginning of the pandemic in 2020, the main task of the children's polyclinic was to prevent the intersection of patient flows

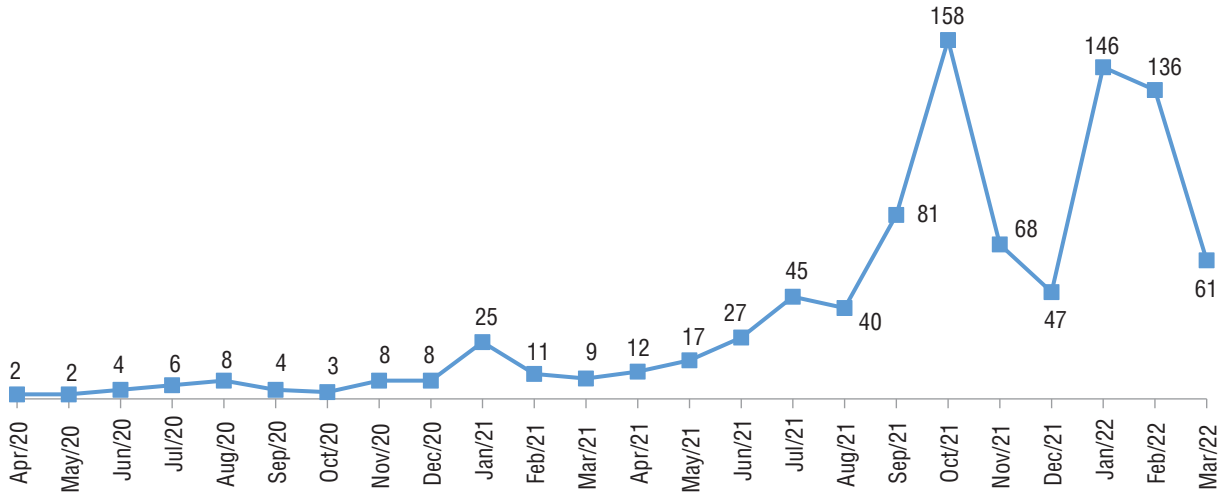

Fig. 1. Seasonal incidence of NCVI in children's polyclinic № 8 in Ivanovo for 2020–2022 (abs.)

Рис. 1. Сезонная регистрация случаев НКВИ в детской поликлинике № 8 г. Иваново за 2020–2022 гг. (абс.)

coming for preventive and other purposes, as well as to preserve the quality of care provided while minimizing the number of visits to the institution. In the fall-winter period of 2021 and early 2022, due to outbreaks of NCVI, the medical staff was facing the tasks of timely detection of post-covid health disorders in children and justification of approaches in order to provide such patients with rehabilitation care. To solve these tasks, new forms of work have been introduced in the children's polyclinic No. 8 of the Regional budgetary healthcare institution Ivanovskaya clinical hospital named after Kuvaevs since the beginning of 2021.

1. Improvement of interaction between the children's polyclinic and parents through electronic technologies

There has always been the problem of receiving quality preventive information and the opportunity to pose a question to a pediatrician without visiting a polyclinic. However, it has become especially acute for parents in conditions of the pandemic.

Background to the innovation:

- lack of reliable medical information on care, nutrition, education of children of a certain age category in the media;
- difficulty of perception and memorization of preventive information that parents received during a medical appointment;
- lack of feedback between a pediatrician and a parent concerning preventive care.

The essence of the innovation was contained in electronic distribution of medical information on care, nutrition, vaccination, education, which also covered current socially important issues (changes in the mode of operation of the polyclinic, prevention of coronavirus infection among children and adults, answers to parents' questions)

A special form of patients' consent to the processing of personal data was developed. Parents' e-mail addresses were collected during the primary nursing by a district nurse, and then a nurse of the healthy child's cabinet (a service organized as part of a children's clinic to carry out preventive work with healthy infants and toddlers) created a database of e-mail addresses of infants' legal representatives which was attached to a service area of the children's polyclinic. The database was divided into subgroups by pediatric areas and by age periods. An informational and methodological base was created for parents (colorful booklets, brochures, leaflets) using modern scientific and practical clinical recommendations with a high level of evidence. Weekly preventive information, taking into account the age grouping of children, was sent to parents. Feedback with patients was organized through the polyclinic's e-mail. Frequently asked questions are monitored daily on the hospital's website and in the children's out-

patient clinic's mail. Templates were created on the basis of these questions.

Effectiveness::

- Increased parental satisfaction with the provision of preventive care in the children's polyclinic (in questionnaire-survey of parents in 2020 the subjective assessment amounted to 45%, in 2021 — 67%).

2. Optimization of complex medical check-ups of unorganized children

Problems in the conduct of preventive medical examinations of minors arose in the "pre-COVID" time, their organization had considerable difficulties associated with both the appointment to doctors of narrow specialties, and the need for multiple visits to the polyclinic, as well as the presence of healthy and convalescent children in the common corridor while waiting for a check-up.

Background to the innovation:

- intersection of patient flows, who came with preventive and other purposes;
- the need for several visits to the polyclinic to undergo preventive examinations with the participation of several doctors (in accordance with the regulatory framework) [3];
- long waiting time for appointments with doctors of narrow specialties.

The essence of the innovation is to conduct a complex check-up of a child at a strictly defined time by a team of specialists and a pediatrician, who are in adjacent rooms. A route list has been developed for each type of examination, according to the age of a child, indicating the date, time of a check-up and a doctor's room number. Lists of children to be examined are compiled by the head of the consulting and diagnostic department.

The district nurse is responsible for notifying the parents of the date, time and place of a preventive check-up. The team of doctors is located in one wing of the building of the children's polyclinic in neighboring rooms, which allows parents to easily find the right room (in order) and pass the check-up in a short time.

Results:

- reduction of time required to undergo a complex medical check-up for a child: in 2020, 4 to 12 visits to the polyclinic were required to undergo a medical check-up, with a total time of more than 150 minutes spent in the polyclinic; in 2021, 2 visits were required for the same purpose, with a total time of 60–90 minutes;
- prevention of crossing of patient flows with different purposes;
- increasing the logicality of a patient's route with the fixed time and date of visiting a pediatrician and (or specialized physicians);
- maintaining the uniformity of the load on specialized physicians and reducing the time of passing through all stages of a check-up by one patient;
- the district nurse is additionally responsible for notifying the parents of the date, time and place of preventive check-ups;
- templates for preventive check-ups have been developed in accordance with the scope of examination, gender and age of a child;
- increasing the coverage rate of medical check-ups for minors (70% in 2020 and 93% in 2021);
- the absence of the need to make an appointment with physicians of narrow specialties independently increased satisfaction with comfort, moreover, considerable time savings of parents significantly increased satisfaction of population with the organizational of medical preventive check-ups (in 2020 — 23%, in 2021 — 75%).

3. Optimization of a complex check-up of a child by referral to a psychological, medical and pedagogical commission or a medical and social expert assessment

Inspections of children with developmental disorders and serious illnesses referred to a psychological, medical and pedagogical commission (PMPC) and a medical and social expert assessment (MSEA) were organized in a similar manner.

Background to the innovation: a complex check-up of a child is conducted before referring him/her to the PMPC or preparing documents for the MSEA. Parents are provided with route sheets with indicated time of a check-up and specialist cabinets. A district pediatrician prepares an extract from a child's outpatient card for the PMPC in advance. To facilitate interaction with the PMPC, a unified "Form of medical-specialists' opinion" has been developed, which repla-

ces 4 certificates issued to parents based on the results of the check-up.

Effectiveness:

- reducing the time to complete a complex medical check-up of a child: in 2020, 5 to 10 visits were required, in 2021 — 2 visits;
- exclusion of intersection of patient flows different purposes;
- increasing patient satisfaction with the organization of these types of check-ups by saving parents' time (34% in 2020, 83% in 2021);
- strengthening of interdepartmental interaction with the PMPC (positive feedback from the heads of the regional and territorial PMPC).

4. Organization of appointments for complex medical check-ups through the website of the children's polyclinic

The need to minimize the number of patient visits to the polyclinic has led to wide inclusion of using electronic technologies in the process of organizing complex check-ups.

Background to the innovation:

- "unnecessary" visits by parents to the district pediatrician to report the need to undergo a complex check-up for any purpose (e.g., before PMPC, before MSEA, at certain age periods);
- population migration and a large number of newly arrived children who have not undergone a scheduled preventive checkup.

The essence of the innovation: an "online services" section was created on the website of the children's polyclinic, which allows parents to order a complex preventive checkup for their child without visiting the children's polyclinic. The application for a complex medical check-up comes to the post office of the children's polyclinic, then it is immediately processed by the senior nurse of the consulting and diagnostic department, and the dates of previous check-ups are analyzed in the child's development history.

A route sheet is formed, including the date and time of the complex check-up. Then the child with his/her legal representative is invited to the polyclinic by phone, the route sheet is also sent to the parents' e-mail.

Effectiveness:

- reduction of visits to the district pediatrician to report the need to undergo a complex check-up: in 2020 — up to 10 visits per shift, in 2021 — no more than 2;
- exclusion of intersection of patient flows different purposes;
- increase in public satisfaction due to the absence of need to visit the polyclinic in order to make an appointment for a check-up.

5. Optimization of the work of the medical and social assistance office

During the pandemic, special difficulties arose in working with patients whose care requires the participation of specialists from the medical and social assistance office.

Background to the innovation:

- difficulties of primary identification of social risk families in conditions of forced self-isolation of the population;
- organization and control over the provision of medical care to children from social risk families in conditions of limited preventive care in the polyclinic;
- the need to regularly transfer information on this category of patients to the polyclinic at the interdepartmental level.

The essence of the innovation the information sheet on dysfunctional families, which is transmitted by the district service to the medical and social assistance office, has been updated and improved: it contains information on the composition of a family, its social status, and specific problems identified during family nursing (possible options are contained in the information sheet). The medical and social service records of the children's polyclinic are kept in electronic form: identification and records of work with families at risk, children under guardianship and custody, results of work with children in difficult life situations, a list of disabled children, a list of children at risk, and others.

Effectiveness:

- increasing the level of coverage of medical check-ups of children from families at social risk and in difficult life situation, trustees, orphans, children with disabilities: in 2020 — 72%, in 2021 — 95%;
- timely interdepartmental transfer of information on dysfunctional families.

6. Optimizing the process of early identification of mental health disorders in children

Diagnosing neuropsychiatric development and identifying mental health disorders are par-

ticularly difficult during complex assessments of children's health. Most often the assessment is conducted formally, due to the lack of time and methodological basis. The participation of a psychiatrist in the diagnosis of developmental disorders is usually accompanied by an inadequate attitude of parents.

Background to the innovation:

- high frequency of deviations in mental development in children, increasing autism spectrum disorders [1, 2, 5, 6];
- parents' refusal to conduct screening to identify the child's risk group for the emergence or presence of mental developmental disorders in children from 18 months of age (according to the current regulatory framework) [3, 4];
- increasing general anxiety of the population in the context of a pandemic and increasing negative attitudes towards medical procedures.

That is why the traditional use of the recommended M-CHAT test for the timely detection of mental developmental disorders in children from one and a half years of age also required some optimization.

The essence of the innovation: before a scheduled check-up of a child at the age of 2, parents receive information on the importance of early detection of mental disorders, as well as the M-CHAT test, which is offered to be filled out by a mother in quiet home conditions and brought on a day of the check-up.

A district pediatrician analyzes M-CHAT results during a preventive checkup and, if necessary, provides a referral to a psychiatrist and/or neurologist (if parents refuse to see a psychiatrist).

Effectiveness:

- increased compliance with parents regarding the need for the questionnaire: in 2020, 24% of parents refuse to complete the test, in 2021 — 2%;
- increased detection of mental health deviations in children aged 2 years: in 2020 — in 3% of children, in 2021 — in 15% of children.

Children with mental developmental disorders can receive complex assistance in our polyclinic in the medical rehabilitation department. The work of the department consists of complex correctional medical, psychological and pedagogical rehabilitation, which is carried out both by physicians and teachers. Most patients of the department are children with delayed neuropsychological development. However, recently we had to focus the work of the department on rendering assistance to children who have endured a new coronavirus infection.

7. Providing rehabilitation care for children who have survived the new coronavirus infection at the pediatric outpatient clinic

April 2020 through February 2022, 868 children were diagnosed with NCVI. After suffering COVID-19, 325 children (37.44%) visited the outpatient clinic with various health complaints, and almost half of them were adolescents (Table 1).

The main clinical syndromes of post-COVID health disorders in children of all ages were somatovegetative and cerebroasthenic syndromes, emotional and behavioral disorders, dysarthritic syndromes in preschoolers and cognitive and cephalgic syndromes in schoolchildren (Table 2).

It is important to note that all children with post-COVID disorders had an aggravated perinatal background.

To actively identify the post-COVID syndrome in patients, a screening questionnaire was developed for children of early, preschool, and school age (from 15 y.o. it is filled in by a patient himself); it is based on the main clinical manifestations among children of these age periods. Online parental questionnaires revealed post-COVID health disorders in 73% of children.

Background to the innovation:

- high incidence of health impairment in children after COVID-19;
- the need to provide rehabilitation assistance to pediatric population in outpatient clinics.

The essence of the innovation: The essence of the innovation: sending a screening questionnaire to the e-mail of parents whose children have endured COVID-19 to identify post-COVID health disorders. Children with clinical signs of post-COVID syndrome are invited to the medical rehabilitation department for rehabilitation treatment. An electronic handout on organization of child's life activities is sent to a family. The handout explains the need to follow the daily regime, timely sleep, nutrition, gradual resumption of physical activity and protective

Table 1

The frequency of health disorders after undergoing NCVI in children of different age groups

Таблица 1

Частота нарушений здоровья после перенесенной НКВИ у детей разных возрастных групп

Возрастные периоды / Age periods	**Факт. / Fact.**	**%**	**Доверительный интервал / Confidence interval**
Дети 0–3 лет (раннего возраста) / Children 0–3 years old (young age)	48	14,77	40–56
Дети 4–7 лет (дошкольного возраста) / Children 4–7 years old (preschool age)	60	18,46	51–69
Дети 8–11 лет (младшего школьного возраста) / Children 8–11 years old (primary school age)	65	20,0	56–74
Дети 12–17 лет (среднего и старшего школьного возраста) / Children 12–17 years old (middle and high school age)	152	46,77	140–164

Table 2

The main clinical manifestations of bridge syndrome in children of different age groups (%)

Таблица 2

Основные клинические проявления постковидного синдрома у детей разных возрастных групп (%)

Ведущий клинический синдром / Leading clinical syndrome	**Дети (возраст, лет) / Children (years old)**			
	0–3 (n=48)	**4–7 (n=60)**	**8–11 (n=65)**	**12–17 (n=152)**
Соматовегетативный / Somatovegetative	70,83	26,67	15,38	7,24
Эмоционально-поведенческий / Emotional and behavioral	29,17	50,0	18,46	21,05
Цереброастенический / Cerebrastenic	–	–	32,31	32,24
Дизартрический / Dysarthric	–	23,33	–	–
Когнитивный / Cognitive	–	–	23,77	14,47
Цефалгический / Cephalgic	–	–	10,77	25,0

climate in a family (praise more often to improve serotonin mediation). The polyclinic's website has a presentation with "healthy life hacks".

The medical rehabilitation department conducts:

1) physiotherapeutic procedures taking into account the leading clinical manifestations of post-COVID syndrome;
2) various types of massage;
3) specially designed gymnastics, including breathing and neuropsychological exercises;
4) consultation and classes with a psychologist, cognitive educator, speech therapist;
5) pharmaceutical treatment (strictly individualized).

Children with pronounced clinical manifestations of neurological decompensation are prescribed neuroangioprotectors and nootropic drugs by a neurologist, depending on the data of ultrasound Dopplerography of cerebral vessels, electroencephalogram, and in some cases — the results of magnetic resonance tomography.

Effectiveness: after a 10-day rehabilitation course all children showed positive dynamics:

- 58,3% of toddlers showed normalization of sleep, behavior and appetite;
- 63.3% of preschoolers had improved behavior and sleep, 10.0% had normalized articulation motor skills;
- 61.5% of junior schoolchildren improved their voluntary attention and mood;
- 66.4% of middle and high schoolchildren got relief from headaches, restored their work capacity and cognitive functions, and normalized their emotional background.

CONCLUSION

The NCVI pandemic and forced self-isolation of the population necessitated changes in the of work of the pediatric polyclinic, especially in terms of preventive activities. Active use of electronic technologies allowed to preserve the

possibility of interaction between the district pediatrician and parents concerning child care, nutrition, vaccination, education. Moreover, it helped to maintain feedback and answer actual questions of parents, which contributed to the improvement of medical literacy of parents regarding child health as well as to prevent violations. The use of digital resources contributed to early detection of mental health disorders in two-year-old children, as well as signs of post-COVID syndrome in children of different age groups by increasing the coverage of parents with the questionnaires.

The organization of cooperative work of a whole team of specialists at one time and in one place made it possible to conduct complex preventive medical check-ups of children, reducing the number of visits, minimizing the time spent in the polyclinic, as well as excluding the intersection of patient flows, who came for preventive and other purposes. This form of work made it possible to continue solving one of the main tasks of the children's polyclinic, i.e. early detection of health disorders in children, in conditions of limited social contacts.

The creation of a united electronic database of medical records in the medical and social assistance office helped to increase the coverage of medical check-ups for families at social risk. It also facilitated interdepartmental cooperation between the polyclinic and the social protection authorities.

Modernization of the medical rehabilitation department's activities and a shift in focus to providing complex care for children with post-COVID health disorders have contributed to the restoration of impaired functions in a short period of time, with the predominant use of non-medical treatment methods.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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THE EXPERIENCE OF INVESTIGATION OF THE SOCIO-PSYCHOLOGICAL READINESS OF FIRST-YEAR STUDENTS TO STUDY AT A MEDICAL UNIVERSITY

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ABSTRACT. In order to study the level of motivation of a student to master the necessary competencies and the degree of readiness for cognitive activity, a survey of first-year students was conducted. To achieve this goal, a survey of 300 students enrolled in the St. Petersburg State Pediatric Medical University was carried out. By analyzing the answers to the questionnaire, firsthand motivation to study, family conditions, health status, self-identification in the school system, personal characteristics and personal achievements, as well as leisure preferences of the first-year students were studied. Briefly describing the results of the study, we focused on the following points. The motivation for admission to a pediatric university is formed under the influence of interest in the medical profession, in addition, applicants are guided by the convenient location of the university and the recommendations of friends. Despite the fact that there is a crisis of the family institute in the country, most of the first-year students belong to prosperous families and are distinguished by responsible behavior, which is expressed in their commitment to a healthy lifestyle, willingness to reconsider their lifestyle for the sake of studying at a university, systematic study of natural science subjects. From a psychological point of view, the character of first-year students is dominated by conflict-free, balance, sociability, adaptability, conservatism, which allows to conclude that the personal qualities of the chosen profession correspond. Also, first-year students are distinguished by the desire for development and self-improvement.

KEY WORDS: adaptation; questionnaire; survey; leisure; unified state exam; healthy lifestyle; motivation; responsible behavior; representativeness; family; social stratification.

ОПЫТ ИССЛЕДОВАНИЯ СОЦИАЛЬНО-ПСИХОЛОГИЧЕСКОЙ ГОТОВНОСТИ СТУДЕНТОВ ПЕРВОГО КУРСА К ОБУЧЕНИЮ В МЕДИЦИНСКОМ УНИВЕРСИТЕТЕ

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РЕЗЮМЕ. С целью исследования уровня мотивации студента к овладению необходимыми компетенциями и степени готовности к познавательной деятельности было проведено анкетирование студентов-первокурсников. Для реализации данной цели осуществлено анкетирование 300 студентов, поступивших в Санкт-Петербургский государственный педиатрический медицинский университет. Посредством анализа ответов на вопросы анкеты были изучены непосредственная мотивация к обучению, семейные условия, состояние здоровья, самоидентификация в системе школьного образования, личностные особенности и личные достижения, а также досуговые предпочтения студентов-первокурсников. Вкратце характеризуя результаты исследования, хотелось бы остановиться на следующих моментах. Мотивация поступления в педиатрический университет формируется под воздействием интереса к медицинской профессии, кроме того, абитуриенты руководствуются удобным расположением вуза и рекомендациями друзей. Большая часть студентов-первокурсников представляют благополучные семьи и отличаются ответственным поведением, что находит свое выражение в приверженности к здоровому образу жизни, готовности пересмотреть свои приоритеты ради обучения в вузе, системном изучении естественно-научных предметов. С психологической точки зрения в характере студентов-первокурсников доминируют бесконфликтность, уравновешенность, коммуникабельность, адаптивность, консерватизм, что позволяет сделать вывод о соответствии личностных качеств избранной профессии. Студентов-первокурсников отличает также стремление к развитию и самосовершенствованию.

КЛЮЧЕВЫЕ СЛОВА: адаптация; анкета; анкетирование; досуг; единый государственный экзамен; здоровый образ жизни; мотивация; ответственное поведение; репрезентативность; семья; социальная стратификация.

INTRODUCTION

A social transformation of the Russian society, which has been observed during the last thirty years, could not but affect the state of higher education. Modern Russian society, compared to the Soviet society, is more complex, and this had a significant impact on its social structure. In particular, modern society is characterized by a wide palette of social statuses, roles and behaviors [6, 7].

In addition to transformations in the structure of society, relations within social and microsocial groups underwent changes as well. For instance, in the 1980's, children played in city yards on their own, often unsupervised by their parents. Many children had a key to their apartment hanging around their necks, sometimes keys were left under a mat, and padlocks were used in private houses. This, mostly naive, attitude to personal property gave an unsophisticated criminal a wide scope for illicit enrichment. In modern Russia, the intruders' task is complicated by the appearance of additional obstacles (intercoms; concierges; video surveillance systems in general and the hardware-software complex "Safe City" in particular; various security systems — from simple mechanical devices to complex ones, etc.).

The complexity of modern Russian society is caused by the emergence of different behavioral patterns. If we consider labor as the main type of human activity that forms the core of personality, it has undergone significant changes nowadays. In a number of cases labor employment, in its classical sense, is negated by other forms of income generation, for example, participation in the business of relatives and friends; receiving dividends from securities and bank deposits; investing, speculating on the stock exchange, real estate, cryptocurrency; renting apartments; posting content on the Internet (blogging, streaming, tick-tocking, vining), etc. The consequence of other forms of income generation is a large amount of free time, which can be used by an individual as he or she wishes. In Soviet times such behavior was excluded by criminal liability for idleness (Article 209 of the Criminal Code of the RSFSR).

There is no doubt that the modern Russian society and the society of thirty-five years ago differ radically from each other. These changes could not but affect the personality of a modern student, which makes it necessary to scientifically comprehend this phenomenon.

It is also impossible not to mention the United State Examination (USE) as a quite complicated institute of modern Russian education. With regard to the USE, it is necessary to dwell on its key feature — increasing the accessibility of higher education. If the USE results are the only requirement for admission to a higher education institution and there is no need to take additional entrance tests, an applicant and his parents do not need to incur financial expenses and burden themselves with additional problems associated with traveling to a higher education institution. It is enough to submit the necessary documents distantly.

This circumstance was not left without attention of the President of Russia V.V. Putin: "The USE has many disadvantages. I know that many of our citizens are indignant at the cheating that takes place in this system — it is true, it exists. But, on the other hand, it opens up opportunities for many children from the peripheral areas of educational centers that we have, because, for instance, secondary and higher education is being developed in some towns, but not in the same way as in traditional educational centers, namely in our large million-strong cities. The USE opens the opportunities to study in the leading higher schools of the country for children from the periphery" [1].

Under these conditions, "local" applicants lose their competitive advantage, and the competition for certain specialties of higher education institutions increases many times. Thus, according to the results of the admission campaign of 2022 at the St. Petersburg State Pediatric Medical University for the specialty 31.05.01 "Medicine", the competition was very high and amounted to 458.0 applicants for one place, most of whom represented different subjects of the Russian Federation and applied remotely. This number is based on the control figures for the admission of citizens at the expense of budgetary allocations of the federal funding.

Thus, the changes in the structure of society and the nature of social relations, as well as the increase in the availability of higher education and their projection on the personality of a first-year medical student have caused scientific interest in this issue.

AIM

The aim of the research is to analyze the social portrait of a first-year student in an applied way. In this regard, the applied aim involves assessing the level of student's motivation to master necessary competencies and the degree of readiness for cognitive activity in the system of higher education, as well as to identify the reasons that cause or hinder its formation. Analysis of a social portrait of a first-year student will improve the quality of organizing the educational process, educational work, choosing effective pedagogical methods and technologies, increasing the degree of students' involvement in scientific work, facilitating social and psychological adaptation. It might also be useful in other important aspects of university life [5, 8].

MATERIALS AND METHODS

The subject of the research is the projection of modern social institutions, relations, and phenomena onto the personality of a first-year student, i.e. a private variant of social behavior. It is well known that social behavior is the subject of research of sociological science. In this regard, we have chosen sociological methods.

Sociological methods are represented by a quite wide palette: document analysis, content analysis, social (sociological) observation, questionnaires, interviews, method of expert evaluations, sociometric survey, testing, social (sociological) experiment, monitoring.

According to the results of the admission campaign of 2022, 1117 students were enrolled in the University on bachelor's and specialist programs at the expense of budgetary allocations of the federal budget and under agreements on the provision of paid educational services. It is necessary for us to choose the most effective method for such a large group. In our opinion, such a method is questionnaire survey. The main advantage of questionnaires is the possibility to interview a large number of respondents in a relatively short period of time.

The method of questionnaire survey predetermined the following stages of the research.

- *The first stage.* Defining the topic of the survey, setting goals and objectives.
- *Second stage*. Development of the questionnaire with closed questions (dichotomous questions — "yes", "no", "I find it difficult to answer"; multivariate questions; scale questions, for example, the question: *"Do you smoke?" a) no; b) not every day; c) daily up to 10 cigarettes; d) on average about a pack a day; e) 1–2 packs a day; f) more than 2 packs a day.*
- *Third step*. Discussion of the questionnaire with the faculty and administrative and management staff of the University using, among other things, the method of "brainstorming".
- *Fourth stage.* Correction of shortcomings, comments on the results of the discussion, editing.
- *Fifth stage.* The direct conducting of the questionnaire.
- *Sixth stage.* Generalization of the results of the survey and preparation of the report, discussion of the results of the survey with the teaching and administrative staff of the University.

The questionnaire method has some disadvantages, the main one is unreliable answers, which can be caused by rashness, haste, and a deliberate desire to distort the results of the research.

This disadvantage can be leveled by using a statistically representative sample. In our case, the sample amounted to 300 respondents, which meets the requirement of representativeness. The results of the scientific sociological research of V.I. Paniotto and V.S. Maksimenko [2] allow us to speak about the representativeness of the sample.

RESULTS AND DISCUSSION

The questionnaire consisted of 35 questions. All questions can be divided into six blocks, each one has the following conventional names: "direct motivation to study", "family conditions", "health condition", "self-identification of a first-year student in the school system", "personal characteristics of a first-year student", "personal achievements and leisure preferences".

The analysis of answers in the first block has shown the following results.

To the question "What influenced your choice of profession?", students were offered to choose several answer options. 87.7% of the respondents answered — interest to medical profession; 19.3% — attracted by the prospect of guaranteed employment; 8.7% — desire to continue medical dynasty; 10.0% — desire to have a higher education diploma; 14.3% — prospect of good income after graduation; 3.7% — strong recommendation of parents; 0.4% — public opinion; 0.7% — mass media; 0.3% left the question unanswered. Among those who chose the option "other", 1.3% of first-year students stated that their choice of profession was influenced by the desire to save people's lives, 0.7% of students admitted the desire to help people find themselves, the same number of students indicated the desire to achieve their goals. Examples of single answers: "dream", "stability in profession", "I want to be a professor", "love for children".

Answers to the question "Where did you learn about Pediatric University?" were distributed as follows: 27.0% — from the University's official website; 15.0% — from social networks; 29.7% — from friends; 12.0% — from school teachers; 27.3% — from parents or relatives; 18.3% — information from representatives of medical organizations; 4.3% could not answer this question. Among those who chose the answer "other", 1.7% of respondents reported that they learned about the Pediatric University through their personal experience — as the have been previously treated at the University clinic. Examples of single answers: "my mother studied here", "I like children", "doctor's referral", "on courses".

The following data were obtained with regard to the motivation of enrollment in the Pediatric University: lower cost of education was the leading motive for 5.7% of respondents; convenient location of the University — for 32.3%; availability of dormitory — for 1.3%; recommendation of parents — for 18.3%; availability of target referral — for 15.3%; enrolled together with friends — for 5.0%; recommendation of friends who already study at the University — for 35.0%; rich student life — for 20.3%; 20.3% of respondents made the choice by chance. There was also a group of students who gave a "detailed" answer for the question. Thus, 1.6%

of respondents indicated a high level of quality of education. The same number of first-year students singled out the university as "the best" (1.6%). The decision of 0.7% of students was influenced by "low passing score" and "a large number of budget places". Examples of single answers: "job placement is guaranteed", "family tradition", "good reputation of the university", "personal history", "attitude to applicants".

As we can see, the motivation for entering the University is quite complex. From the substantive point of view, the interest in the medical profession dominates. From the formal point of view, the following factors were decisive in choosing the university: objective factor — convenient location of the university (32.3%) and subjective factor — recommendations of friends studying at the university (35.0%). It is possible to assume that microsocial environment has a significant influence on applicants, which in particular forms the information agenda (29.7% of respondents learnt about the University from friends, 35.0% were influenced by friends' recommendations). In general, students highly evaluate the quality and conditions of education at the University and form a positive public opinion about it. It is advisable to support interest in the medical profession and conduct training sessions on "non-medical disciplines", using the achievements of medical science, medical statistics, materials of medical practice, problematic and controversial issues in the organization of health care. It seems that this fact should be taken into account first of all by new teachers — graduates of non-medical universities.

Questions from the second block of the questionnaire are devoted to relations in a family. The majority of respondents live in a complete family (90.7%); in an incomplete family (with one of the parents (mom, dad), or grandparents) — 6.0%; with a guardian — 0.7%; in a low-income family — 0.3%; it is noteworthy that 2.7% of respondents have their own familes. According to the results of the 2020 census, 61.5% of children are brought up in complete families [3]. This fact allows us to assert that the majority of first-year students were brought up in favorable family conditions, where parents are distinguished by their responsible attitude to the family institution. For more than thirty years our society has been in a state of permanent crisis. It has been affecting all aspects of social existence. The responsible behavior of parents is a significant personal capital, which was formed in very difficult conditions, when an individual must constantly critically analyze current social conditions and situations, measure his capabilities and reality and be congruent with them, as well as restrain his behavior within acceptable limits.

It seems that responsible behavior of parents is cultivated in children as well, which allows us to assert that the majority of first-year students are not only distinguished by responsible behavior and are carriers of social capital, but also differ in their ability to social adaptation. The following results of answers confirm this thesis. The overwhelming majority of first-year students (76.8%) plan to combine study and work. 28.0% would like to start from the third year, 18.0% — from the second, 15.7% — from the first, 12.7% — from the fourth, 0.7% — from the fifth. 1.7% answered positively without specifying the course, 17.0% gave a negative answer, 4.7% found it difficult to answer, and 1.7% of students answered "don't know". The combination of higher education and labor activity emphasizes the responsibility of students' behavior.

Another group of answers also points to favorable family conditions. Thus, to the question: "Did your parents take an active part in school life?" — 45.0% answered affirmatively, 36.0% — negatively, 17.7% — found it difficult to answer, 1.3% could not answer. In other words, parents of 45.0% of respondents found time and energy and took active participation in school life of the applicants.

The only child in the family is 27.7% of respondents; two children — in families of 45.7% of respondents; three and more children — in families of 25.3% of respondents; 1.3% did not answer this question.

Briefly characterizing the family relations of first-year students we can conclude that the majority of them represent prosperous families and are distinguished by responsible behavior. At the same time it is necessary to keep in mind that social adaptability and the ability to control their own activities are only the basis for the formation of the necessary general professional competencies. In these conditions, quite serious requirements are imposed on teachers, who should inspire students to deep and systematic study of academic disciplines by analogy with the famous expression of Plutarch: "A student is not a vessel to be filled, but a torch to be lit".

Ultimately, a student should have a system of knowledge, skills and abilities upon graduation. They will allow him/her to solve the following tasks of professional activity: medical, research, and management ones.

The third block of questions analyzed the health of students. 77.3% of respondents consider themselves practically healthy, 8.0% — often sick, 15.3% — chronically ill, 2.3% of respondents point out health limitations. A rather high share of practically healthy respondents attracts attention. The high share of practically healthy first-year students correlates with the answers to the questions studying the attitude to bad habits.

Thus, according to the results of studying the answers to the question: "Do you smoke?" — a high proportion of non-smoking first-year students (82.7%) was revealed; 11.0% smoke not every day; 3.7% consider themselves daily smokers (up to 10 cigarettes); 1.3% smoke on average about a pack of cigarettes a day; 0.3% of first-year students smoke 1–2 packs a day. First-year students are less categorical about alcohol consumption. In particular, the answers were distributed as follows: do not use alcoholic beverages — 61.7% of respondents; use several times a year — 30.7%; use several times a month — 6.0%; use several times a week — 0.3%; 1.0% of respondents did not answer this question. As we can see, the University students demonstrate a high commitment to a healthy lifestyle.

In addition, the study of individual circadian rhythms revealed that 68.7% of respondents refer themselves to "owls", and 30.0% — to "larks", 1.0% of respondents left this question unanswered. At the same time, 85.3% of respondents expressed their readiness to change their daily routine for the sake of studying at the University; 1.3% believe that they are not ready to change their daily routine for the sake of studying; 8.7% found it difficult to answer; 4.7% of respondents did not answer this question. This circumstance emphasizes the presence of motivation for higher education.

Summarizing the attitude to health in general, the responsible behavior of first-year students also draws attention, which is expressed in the commitment to a healthy lifestyle and willingness to reconsider the lifestyle for the sake of studying in higher education. It seems that the willingness to reconsider their priorities for the sake of studying at the University and a rational approach to health should not exclude but complement each other.

We believe that a healthy lifestyle for a modern doctor becomes an integral part of a successful image. In particular, in accordance with part 1, art. 22 of the Federal Law of 21.11.2011 No. 323-FZ (ed. 28.04.2023) "On the basis of health protection of citizens in the Russian Federation" primary medical and sanitary care is the basis of the system of medical care and includes measures for prevention, diagnosis, treatment of diseases and conditions, medical rehabilitation, monitoring the course of pregnancy, the formation of a healthy lifestyle and hygiene education of the population. That is why the educational process in medical school and extracurricular activities should be aimed at the formation, preservation and maintenance of the correct approach to health [4]. Health is not only a personal capital of a future doctor, but also a pledge of successful formation of a healthy lifestyle in future patients and hygienic education of the population, based on the "golden rule" of pedagogy: "Personal example is the best way of education". It is thought that the majority of first-year students will gladly take part in the activities aimed at the formation of a healthy lifestyle, if it is well organized.

The block devoted to first-year students' self-identification in the school education system, proposed to specify the school subjects that the respondents studied with great interest (it was possible to specify several subjects). The highest mentions (78.3%) were given to the subject "biology", 62.7% of respondents chose the discipline "chemistry", 17.7% studied the subject "literature" with interest, 15.3% — "foreign language", 10.3% — "history", 10.3% — "Russian language". Only 6.0% of students studied "physics" with interest. 5.3% of respondents showed interest in the discipline "social studies", 2.7% — in "physical training". Interest in other school subjects did not exceed 2.0% of the total number of respondents.

Among school subjects that did not arouse interest (several subjects could be specified), the most popular answer was "physics", it was chosen by 39.0% of first-year students, 26, 0% of students found studying "mathematics" uninteresting, 19.7% of students indicated "history", 13.7% — "foreign language", 12.7% — "so-

cial studies", 10.7% — "informatics", 7.0% — "physical education", 6.3% — "literature", 4.0% — "chemistry", 3.3% — "Russian language". Other subjects were chosen by less than 3.0% of students.

The most difficult school subjects to study turned out to be the following (it was possible to specify several subjects): "physics" — it was chosen by 45.0% of first-year students, "mathematics" — 35.3%, "chemistry" — 16.3%, "foreign language" — 10.3%, "history" — 7.0%, "biology" — 6.3%, "Russian language" — 4.0%, "informatics" — 4.0%, "literature" — 3.3%. Other subjects seemed difficult to study for less than 3.0% of students. It is noteworthy that for almost every sixth student "chemistry" was the most difficult subject.

The following school subjects turned out to be the least difficult for studying (it was possible to specify several subjects): "biology" — it was chosen by 34.0% of students, "chemistry" — 30.3%, "Russian language" — 27.7%, "mathematics" — 18.0%, "foreign language" — 14.3%, "history" — 9.0%, "physical culture" — 5.7%, "basics of life safety" — 5.3%, "social studies" — 5.0%. Other subjects seemed to be the least difficult to study for less than 3.0% of students.

The answers to the following question seem to be interesting: "Which of the following statements characterizes your attitude to school studies best?" 67.3% of those who took part in the survey answered that they "studied with interest, tried to study as best as possible"; 21.3% — "studied normally, but there was no particular interest to study"; 11.0% — "studied diligently, but did not get the expected result"; 1.3% — "it was not very interesting to study, I did not show any diligence in studying"; no one noted the option "it was not interesting to study, I never showed any diligence in studying"; 1.0% of those who took part in the survey left this question unanswered. It seems that the answers "I studied with interest", "I studied normally", "I studied diligently" in general emphasize a serious and aware attitude to learning. In other words, 99.6% of respondents had a responsible attitude to studying at school.

13.7% of respondents prepared for passing the Unified State Exam on their own; 29.7% prepared on their own and during additional lessons at school; 6.0% prepared with a tutor for one exam; 36.7% prepared with a tutor for two exams; 28.0% prepared with a tutor for three or more exams; 1.7% did not answer this question. Analysis of answers to this question allows to say that 64.7% prepared for two or more Unified State Examinations with the help of tutors.

Characterizing the answers in general, we would like to note once again that a distinctive feature of first-year students is their responsible behavior, which, on the one hand, was expressed in the fact that they were able to find an internal consensus between the potential possibility of becoming a doctor in the distant future and the necessity to study natural-science subjects deeply and systematically for several years. That is, they were able to reasonably match their needs with their opportunities during adolescence. On the other hand, the need for deep and systematic study of science subjects made potential first-year students radically reconsider their motivation system and daily routine, self-organize and allocate the necessary amount of free time. The support of parents who realized the necessity of tutoring and allocated the necessary amount of money from the family budget is also noteworthy.

In terms of the student science development, we believe that the willingness to reconsider the way of life for the sake of studying at the University, the ability to deeply and systematically study science subjects, as well as scientific guidance from senior colleagues who can ignite the "torch of knowledge" in the student, will lead to a synergetic effect. It seems that departments have a rather responsible task of attracting talented young people to participate in the work of student scientific societies.

The questions of the fifth block are devoted to the personal characteristics of a first-year student. It is obvious that the ability of a doctor to behave without conflict has a key importance. In this regard, we found that 72.7% of the questionnaire respondents had no conflicts in school with teachers; 14.0% had conflicts; 12.3% found it difficult to answer; 1.3% did not answer the question. Similar results were obtained when studying the degree of respondents' tolerance in relations with classmates. To the question: "Did you have conflicts with classmates?" — 76.0% of respondents answered negatively; 18.0% — positively; 4.3% found it difficult to answer; 1.3% left the question unanswered. The analysis of the degree of tolerance in relations with

teachers and classmates allows us to assert that a significant part of those who entered the first year (over 70%) can behave without conflict and restrain themselves within socially acceptable limits in critical situations.

The above-mentioned judgment of conflict-free behavior of the majority of those who entered the first year is confirmed by the answers to the following two questions. Thus, to the question: "Do you consider yourself a calm, balanced person?" — 84.0% of those who participated in the survey answered in the affirmative; 3.7% — negatively; 10.3% — found it difficult to answer; 2.3% of those who participated in the survey did not answer the question. The answers to the question: "Do you consider yourself an impulsive, unbalanced person?" were distributed as follows: they agreed with the question: "Do you consider yourself an irascible, unstable person?" — were distributed as follows: 7.0% agreed with this statement; 82.3% did not agree; 9.3% found it difficult to answer; 1.0% of respondents could not answer this question.

To the question: "Do you enjoy doing risky things for fun?" — 11.7% of respondents answered affirmatively; 71.0% — negatively; 12.7% — found it difficult to answer; 4.7% of respondents left the question unanswered. As we can see, 71.0% of respondents confirmed that they prefer a quiet way of life.

The next question was devoted to analyzing the communicative features of first-year students. The following question: "Do you experience difficulties in communication?" was answered affirmatively by 9.0% of the questionnaire respondents; negatively — 77.3%; 13.3% found it difficult to answer; 1.3% of the questionnaire respondents left the question unanswered.

Own adaptive abilities were assessed as follows. The question: "Do you find it easy to adapt to new conditions?" revealed that 69.0% of respondents found it easy to adapt to new conditions; 10.3% — difficult to adapt; 19.7% — found it difficult to answer; 1.0% — did not answer this question.

As part of the survey, students were asked to name their qualities (if any) that they believe make them better than others. The following were mentioned most often: "responsibility" — 8.0%, "purposefulness" — 7.7%, "diligence" — 6.3%, "perseverance" — 6.0%, "steadiness" — 6.0%, "communication skills" — 5.0%, "diligence" — 5.0%. Such qualities as "responsiveness" — 1.7%, "openness" — 1.7% were named less frequently. We can separately note such single answers as "cunning", "causticity", "cold-bloodedness", "ruthlessness", "egoism".

Another question on personal self-esteem was posed as follows: "Can you call yourself a leader, an initiator of any affairs in the team?". 44.0% of respondents answered this question positively; 30.0% — negatively; 25.7% — found it difficult to answer; 1.0% of respondents left the question unanswered.

Within the framework of the survey, students were asked to indicate the informal youth movement, whose views they share: 94.7% could not name such informal youth movements; 1.7% sympathize with punks; 0.7% sympathize with anime fans; among the single answers there were mentioned "altushki", "volunteer movement", "goths", "club of sleep lovers", "LGBTQ+", "neo-modernists", "feminists", "emo". As we can see, the share of persons belonging to conservative cultural values is very high.

The analysis of answers to the questions devoted to personal self-identification allows us to say that first-year students are quite responsible in their behavior. This is evidenced by such personality qualities as non-conflict, steadiness, sociability, adaptability, conservatism. It is thought that psychological properties of personality correspond to the chosen profession. At the same time it is necessary to take into account that students are in a difficult situation from the point of view of social adaptation. This state of affairs is caused by two groups of factors. On the one hand, our state, which carries out the special military operation, is in a difficult situation from the ideological point of view. On the other hand, a number of first-year students are socially immature due to their age, and some students have no experience of social interaction in a megapolis. The impact of these factors can attract students to activities of destructive and extremist youth movements, as well as criminal groups. It is obvious that preventive work in relation to these socially-negative phenomena should be carried out within the framework of educational activities, educational events, the institute of mentoring, electronic information environment of higher education institu-

tion, etc., as well as within the framework of educational activities.

Another confirmation of an active life position were answers to the question: "How do you feel about public assignments?". 50.7% chose the answer "positively", 7.0% — "negatively", 11.0% — "indifferent", 22.3% chose the option "I find it difficult to answer", and 9.3% left the question unanswered. Thus, more than half of the respondents are ready to fulfill public assignments.

Among the surveyed first-year students 54.0% are prizewinners of subject Olympiads. 17.0% of these students are prize-winners of two or more Olympiads. The largest number of new students are winners of Olympiads in the subjects "biology" — 18.7% and "chemistry" — 10.0%. 5.0% won the Olympiad in Russian language. The same number of students (5.0%) were prizewinners at the Olympiads in foreign languages. The same number (3.7%) among the surveyed students are winners of Olympiads in such subjects as "ecology" and "social studies". The number of winners in other subject Olympiads is less than 3.0%.

18.0% of respondents have achievements in sports (category or sports title). The most popular sports are swimming (3.0%) and athletics (3.0%). 1.0% of first-year students have achievements in volleyball, the same number of students have a sports category in "ballroom dancing". 2.0% of students have a gold award in "ready for work and defense".

Almost a quarter (23.0%) of respondents own a musical instrument, 9.0% of these respondents own two or more instruments. The most common instruments are piano (15.0%) and guitar (9.0%). Less popular are ukulele (3.0%) and flute (2.3%). Single students (less than 1.0%) know how to play such instruments as whistle, clarinet, drums, saxophone, accordion, dombra, and bayan.

Almost a half of the surveyed students (46.3%) declared their knowledge of a foreign language. Among them, 9.7% speak two or more languages. The most popular language is English (46.3%). French (4.3%) and Italian (1.3%) are less popular. 1,0% speak Spanish, and 0.7% speak Turkish. In terms of proficiency level: 17.0% of respondents consider their knowledge basic, 22.7% — intermediate, 5.0% — advanced. 5.0% of respondents did not indicate the degree of foreign language proficiency.

Only 1.3% of respondents indicated achievements in computer programming (average level and above).

The majority of students (78.8%) have interests and hobbies (hobbies). The greatest interest is in creativity (27.3%) and reading (18.7%). The same number of respondents (11.7% each) are interested in sports and dancing. Less popular are vocal classes (4.3%) and photography (4.0%). 2.7% of students are fond of computer games. 6.0% of students attended theater studios.

58.0% of respondents are interested in reading. 35.3% of respondents read no more than two books per month, 14.7% read no more than four books, 5–6 books per month are read by 5.3% of students. 7 books or more are read by 2.7% of students. 0.3% found it difficult to answer.

When answering the question: "Which literary or movie hero best embodied the image of a doctor?" — 17.3% of students named the heroes of classical Russian literature. Among them, 13.3% of respondents recalled the heroes of M. Bulgakov's novels ("Dog's Heart", "Notes of a Young Doctor", "Morphii"), 1.7% considered Dr. Zhivago (B. Pasternak) as such, 2.3% of respondents recalled Eugene Bazarov from I. Turgenev's novel "Fathers and Children". The answers also included modern movie heroes: Dr. House, Oleg Bragin (TV series "Sklifosovsky"), Natalia Bakhmetieva (TV series "Pregnancy Test"), heroes of the TV series "Anatomy of Passion", the main character of the TV series "Zero Patient" and others. Some students treated the answer with humor, naming the following characters: Dr. Livesey (Treasure Island), Andrei Bykov (TV series "Interns"), Dr. Aibolit.

Summarizing the answers to the questions of the last block, it should be emphasized that the majority of respondents take an active life position and strive for development and self-improvement. This thesis is confirmed by active participation in school social life and extracurricular activities, in subject Olympiads, hobbies, reading fiction, mastering foreign languages and musical instruments.

CONCLUSION

1. Motivation for admission and subsequent study in a medical university is quite complex

and is formed under the influence of different groups of factors: social, microsocial environment, individual worldview, family and utilitarian values.

2. The majority of first-year students who entered the University in 2022 are generally motivated to obtain higher education, master the necessary competencies and are ready for cognitive activity.

3. Conscious, rational attitudes are instilled and encouraged in the families of first-year students.

4. First-year students are distinguished by responsible behavior, which is expressed in their attitude to health, readiness to self-organize and revise their lifestyle for the sake of higher education, aspiration for development and self-improvement.

5. Psychological characteristics of first-year students' personality in general correspond to the chosen profession.

6. Summarizing the work as a whole, we can conclude that the students who entered the first year of St. Petersburg State Pediatric Medical University on the bachelor's and specialist programs are characterized by a high degree of socio-psychological readiness for learning.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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STUDENTS' OPINION ON THE QUALITY OF TEACHING THE SUBJECT "PUBLIC HEALTH AND HEALTHCARE"

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ABSTRACT. A sociological study (anonymous questionnaire) of the opinion of 4th-year students of the Medical Faculty of the Medical University on the organization of the educational process at the Department of Public Health and Healthcare with a course in economics and health management was conducted. The questionnaire, specially developed for the purposes of this study, included 4 blocks of questions: assessment of satisfaction with the quality of lectures; satisfaction with practical studies; assessment of the organization of working out of missed classes, a system for monitoring and evaluating the knowledge and skills acquired, the quantity and quality of teaching aids; a comprehensive assessment of satisfaction with the quality of teaching this discipline as a whole. 188 students took part in the survey (49.8±2.6% of the total number of students in the course). The analysis showed that more than half of the students are quite satisfied with the quality of lectures. The quality of practical classes and the level of communication between students and the teacher. More than 90% are completely satisfied with the quality of practical classes and the level of communication between students and the teacher. In general, 62.0±3.5 respondents expressed full satisfaction with the quality of teaching the discipline, and another third part was more satisfied than dissatisfied with the work of the department. The most useful, valuable from the point of view of further application in subsequent practical activity, topics, as well as topics that are most difficult for students to learn, are identified. The comments and recommendations of respondents on improving the teaching of the subject are analyzed.

KEY WORDS: educational process; students' opinion; public health; healthcare organization.

МНЕНИЕ СТУДЕНТОВ О КАЧЕСТВЕ ПРЕПОДАВАНИЯ ДИСЦИПЛИНЫ «ОБЩЕСТВЕННОЕ ЗДОРОВЬЕ И ЗДРАВООХРАНЕНИЕ»

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РЕЗЮМЕ. Проведено социологическое изучение (анонимное анкетирование) мнения студентов 4-го курса лечебного факультета медицинского университета об организации учебного процесса на кафедре общественного здоровья и здравоохранения с курсом экономики и управления здравоохранением. Специально разработанная для целей данного исследования анкета включала 4 блока вопросов: оценку удовлетворенности качеством лекций; удовлетворенность практическими занятиями; оценку организации учебного процесса; комплексную оценку удовлетворенности качеством преподавания данной дисциплины в целом. В анкетировании приняли участие 188 студентов (49,8±2,6% общего числа обучающихся на курсе). Проведенный анализ показал, что качеством лекций вполне удовлетворены более половины студентов. Качеством проведения практических занятий и уровнем общения студентов с преподавателем вполне удовлетворены более 90%. В целом полную удовлетворенность качеством преподавания дисциплины высказали 62,0±3,5% респондентов, а еще третья часть была скорее удовлетворена, чем не удовлетворена работой кафедры. Выявлены наиболее полезные, ценные с точки зрения дальнейшего применения в последующей практической деятельности, темы, а также темы, наиболее сложные для усвоения студентами. Проанализированы замечания и рекомендации респондентов по улучшению преподавания предмета.

КЛЮЧЕВЫЕ СЛОВА: учебный процесс; мнение студентов; общественное здоровье; организация здравоохранения.

INTRODUCTION

Many surveys are devoted to issues of student learning organization. Authors review this issue from different positions. Special attention is paid to the use of health-saving technologies: creation of comfortable conditions for learning; use of health-improving methods regulating motor activity and methods of recovery of mental and physical performance [3, 6, 13]. A significant number of publications highlight the role of a teacher in the organization of the educational process [4, 5, 7, 8], his competence, competent organization of educational and training activities to form deep professional knowledge, practical skills and abilities in students. Many authors note the significant role of students' involvement in the learning process [9, 10, 18, 19]. The issues of introducing innovative electronic educational resources and technologies in the learning process to improve the assimilation of material and consolidation of knowledge are widely considered: electronic lectures [12, 15–17], multimedia lectures [14, 16], which make the presentation of information more interesting, memorable and illustrative in terms of demonstration.

The "Federal Target Program of Education Development for 2016–2020" outlined the main goals of education development. It emphasized its focus on ensuring the availability of quality education that meets the requirements of innovative socially oriented development of the country. One of the strategic tools contributing to the achievement of these goals can be a strong organizational culture of an educational organization [1, 2, 11], which is considered not only as a factor in the development of higher education institution, but also as a factor in the formation of general cultural competencies of students. The authors of the mentioned works have developed an electronic attendance module, which allows generating reports on a particular study group. This allows to facilitate the duties of the dean's office employees and group heads as well as to provide accounting and visualization of data, which, ultimately, contributes to the adjustment of the educational management.

In November 2022, the results of the second stage of the All-Russian study "Student Satisfaction with Learning and Educational Opportunities" were presented at a joint meeting of the Board and Council of the Russian Union of Rectors and the

Presidium of the Russian Academy of Sciences. Students were offered to evaluate the openness, completeness and accessibility of information about the organization's activities posted on information stands; use of the official website of the organization in the Internet; satisfaction with the openness, completeness and accessibility of information about the activities of the organization on its official website; comfort of receiving services in the organization; to evaluate the availability of services for the disabled and other low-mobility groups of citizens in the organization; friendliness and politeness of the employees of the organization. The third stage of this research is currently underway, the results will undoubtedly identify significant trends in the system of higher education in the country.

Despite the large number of modern publications, we have not encountered articles about student satisfaction with the organization of the educational process in medical school and, especially, in the departments of public health and public health care. The aim of the research was to develop recommendations for improving the educational process for students at the Department of Public Health and Health Care with the course of economics and health management.

MATERIALS AND METHODS

A sociological survey of satisfaction with the organization of the educational process at the Department of Public Health and Health Care with the course of economics and health management of the "First St. Petersburg State Medical University named after acad. I.P. Pavlov" was performed by means of anonymous questionnaire survey of the 4th year students of the medical faculty. The questionnaire survey was conducted after the completion of a lecture course and after the end of a cycle of classes at the department. Specially designed questionnaire included 4 blocks of questions.

The first block included the assessment of satisfaction with the quality of lectures (interesting, accessible, illustrative). The second block was related to practical classes (satisfaction with the schedule of classes, conduct, quality of knowledge, level of communication between a teacher and students). The third block included the assessment of the organization of workouts for missed classes, the system of knowledge and skills control, crediting, the number and quality of teaching aids. In conclusion, it was proposed to provide a comprehensive assessment of satisfaction with the quality of teaching of the discipline as a whole. These questions were assessed using a five-point system. The fourth block of questions characterized the attitude of students to the studied discipline: "Do you consider the studied subject necessary for practical work of a doctor?"; "Did you become interested in participation in scientific research on health care organization and public health?"; "Did you have a desire to work in the field of health care management in future?". The answers were also evaluated according to a five-point system. In addition, the questionnaire contained a number of open-ended questions where free answers were supposed to be given:

- "Which of the sections of the discipline do you consider the most useful and valuable in relation to further application in the subsequent practical activity?";
- "Name the topic that remained the least clear for you after the course";
- "Name the topic that was the most interesting for you";
- "Your comments, suggestions and recommendations for improving the quality of teaching".

RESULTS

88 students of the 4th grade of the Medical Feculty took part in an anonymous questionnaire survey (49.8±2.6% of the total number of students in the course, the sample was statistically reliable).

The analysis showed that more than half of the students were satisfied with the quality of lectures. More than 90% of respondents are quite satisfied with the quality of practical classes and the level of students' communication with a teacher (Table 1). At the same time, 5±1.6% — 7±1.9% were not satisfied with the quality of teaching to some extent.

Assessing the quality of the teaching process, the largest percentage of students (15±2.6%) were dissatisfied with the organization of missed classes completion, and 6±1.7% were completely dissatisfied. However, 79% did not answer — probably, because they did not miss classes and did not need to work it out (Table 2).

8±1.7% of the respondents were dissatisfied with the quality of teaching-methodical aids; other remarks were of single character.

Almost all respondents expressed satisfaction with the quality of teaching the discipline as a whole: 62,0±3,5% were completely satisfied and 32,0±3,4% were more or less satisfied.

Assessment of students' attitude to the discipline "Public Health and Health Care" was very

Table 1

Distribution of students by degree of satisfaction with teaching the subject, %

Таблица 1

Распределение студентов по степени удовлетворенности преподаванием предмета, %

Признак / Sign	Вполне удовлетворен / Quite satisfied	Скорее удовлетворен, чем нет / Rather satisfied than not	Не могу сказать / I can't say	Скорее не удовлетворен / Rather not satisfied vorenus	Не удовлетворен / Not satisfied	Всего / Total
Удовлетворенность качеством преподавания / Satisfaction with the quality of teaching						
• качеством лекций (интересно) / the quality of lectures (interesting)	54,0±1,3	31,0±1,3	10,0±2,2	3,0±1,2	2,0±1,0	100,0
• качеством лекций (доступность) / quality of lectures (accessibility)	59,0±3,6	29,0±2,2	5,0±1,6	5,0±1,6	2,0±1,0	100,0
• качеством лекций (иллюстративность) / quality of lectures (illustrativeness)	58,0±3,6	31,0±1,3	6,0±1,7	3,0±1,2	2,0±1,0	100,0
• проведением практических занятий / conducting practical classes	91,0±2,1	6,0±1,7	2,0±1,0	1,0±0,7	–	100,0
• качеством получаемых знаний / the quality of the knowledge received	69,0±3,4	20,0±2,9	11,0±2,3	–	–	100,0
• уровнем общения Вашего преподавателя со студентами / the level of communication between your teacher and students	97,0±1,2	2,0±1,0	1,0±0,7	–	–	100,0

interesting for the department, as it is entirely related to the quality of teaching. 60,0% of respondents consider our subject necessary for practical work of a doctor, 69,0% liked to attend classes, the fourth part of respondents became interested in working in the student scientific society (SSS), and the same number of students had a desire to work in the field of public health management in the future (Table 3).

Of course, it does not mean that all of them will immediately participate in SSS or want to become managers of different levels. However, students' answers testify to the awakened interest in the specialty "Health Care Organization and Public Health".

The respondents (230 answers in total, as some students mentioned 2–3 topics each) consider classes on compulsory medical insurance (24.7%), medical statistics (20.3%) and population health indicators (11.3%) to be the most useful and valuable for further application in the subsequent practical activity. They are followed by expertise of temporary incapacity for work (9.5%), financing (7.8%), market and economy (7.4%) and organization of medical care in medical organizations of different types, including familiarization with the work of practical health care institutions on clinical bases (7.4%). Classes on medical and social expertise were identified by 4.8% of respondents, other topics — 2.6%, all topics — 4.7%, 2.6% answered that there were no topics that seemed to be intresting for them.

At the same time, a number of topics turned out to be difficult to understand for the respondents (235 answers): economics — 16.4%, statistics — 15.1%, financing — 12.0%, market, taxation, entrepreneurship, marketing, management — 11.6%, obligatory medical insurance — 9.8%, medical and social examination, examination of temporary disability — 4.4%, other (drug provision, law, planning, quality management) — 10.2%. In general, quite a large part of respondents (83.1%) noted the difficulty of

Table 2

Distribution of students by degree of satisfaction with the organization of teachingprocess, %

Таблица 2

Распределение студентов по степени удовлетворенности организацией преподавания, %

Признак / Sign	**Вполне удовлетворен / Quite satisfied**	**Скорее удовлетворен, чем нет / Rather satisfied than not**	**Не могу сказать / I can't say**	**Скорее не удовлетворен / Rather not-satisfied vorenus**	**Не удовлет-ворен / Not satisfied**	**Всего / Total**
Удовлетворенность организацией преподавания / Satisfaction with the organization of teaching						
• расписанием занятий / schedule of classes	66,0±3,4	23,0±3,2	5,0±1,6	5,0±1,6	1,0±0,7	100,0
• организацией отработок пропущенных занятий / organization of work-off of missed classes	12,0±2,4	3,0±1,2	79,0±3,6	–	6,0±1,7	100,0
• системой контроля и оценки полученных знаний и умений / a system for monitoring and evaluating the acquired knowledge and skills	59,0±3,6	27,0±3,2	8,0±2,0	5,0±1,6	1,0±0,7	100,0
• уровнем освоения тем на занятиях / the level of mastering topics in the classroom	64,0±3,5	27,0±3,2	8,0±2,0	1,0±0,7	–	100,0
• проведением зачетов / conductin goffsets	71,0±3,3	14,0±2,5	13,0±2,7	1,0±0,7	1,0±0,7	100,0
• качеством учебно-методических пособий / the quality of teachin gaids	59,0±3,6	28,0±3,3	5,0±1,6	4,0±1,4	4,0±1,4	100,0
• качеством преподавания данной дисциплины в целом / the quality of teaching this discipline in general	62,0±3,5	32,0±3,4	5,0±1,5	1,0±0,7	–	100,0

Table 3

Distribution of students in relation to the subject (%)

Таблица 3

Распределение студентов по отношению к предмету (%)

Признак / Sign	**Да / Yes**	**Скорее да, чем нет / Rather yes than no**	**Не могу сказать / I can't say**	**Скорее нет, чем да / Rather not hanyes**	**Нет / No**	**Всего / Total**
Считаете ли Вы предмет необходимым для практической работы врача? / Do you consider the subject necessary for the practical work of a doctor?	60,0±3,6	21,0±3,0	15,0±2,6	3,0±1,2	1,0±0,7	100,0
Нравилось ли посещать занятия по дисциплине? / Did you like to attend discipline classes?	69,0±3,4	21,0±3,0	8,0±2,0	1,0±1,2	1,0±0,7	100,0
Появился ли у Вас интерес к научной работе по ОЗ и ОЗ? / Do you have any interest in scientific work on OSIOSIS?	27,0±3,2	16,0±2,7	31,0±3,4	8,0±2,0	18,0±2,8	100,0
Появилось ли у Вас желание в будущем работать в сфере управления здравоохранением? / Do you have a desire to work in the field of healthcare management in the future?	28,0±3,3	19,0±2,9	30,0±2,9	5,0±1,6	18,0±2,8	100,0

mastering one or several topics, and only 16.9% wrote "Everything is clear, thanks to teachers".

A number of students consider it appropriate to add or expand such topics as "Entrepreneurship in health care", "Law, protection of doctor and nurse", "Management and control in health care, statistics in medical organizations, informatization, legislation, accreditation", "Doctor's work abroad and the most paid medical specialties", etc. to the course of lectures and classes.

59.9% of respondents had no comments on the organization of the educational process. However, every fourth student (26.1%) noted that the time for mastering material was very limited, 4.9% mentioned that there was not enough time to prepare for the exam and coursework, 3.2% — lectures and practical classes are not synchronized in time, 1.1%t — the system of recording attendance at lectures is not perfect,1.5% — the availability of topics for independent study, 1.5% — little practice in solving problems, few breaks during practical classes, 1.5% — other comments.

In accordance with these comments, 37.9% of respondents made a number of suggestions to improve the educational process at the department: to increase the number of days in the cycle — 24.5%, to transfer the cycle to senior courses — 4.3%, to coordinate the time of lectures and the cycle of practical classes — 3.7%, to update and develop methodological materials — 1.6%, to increase the number of classes at bases — 1.1%, to reduce the number of topics for independent study, to exclude questions that were not studied in lectures and practical classes from the exam — 1.1% each.

The results of the survey were discussed at the departmental meeting. Of course, the realization of a number of these recommendations does not depend on the department. The program, duration of cycles, number and topics of lectures, forms of knowledge control are regulated by the relevant local acts of the university, synchronization of lectures and practical classes is carried out by the educational-methodical division of the university. Nevertheless, a number of suggestions were taken into account in planning of educational and methodical work:

I. New topics were introduced in the course of lectures:
   – Models of health care organization. International practice of medical care organization.
   – Legal bases of public health protection in the Russian Federation.
   – Effective employment.
   – Training under the target contract (opportunities and prospects).

II. New educational and methodical manuals were revised and compiled:
   1. Organization of medical care in socially significant diseases:
      – Part I: Mental and behavioral disorders, including those associated with substance use (SPb.: RICP SPbSMU, 2022. 48 p.);
      – Part II: Tuberculosis. Disease caused by human immunodeficiency virus (SPb.: RICP SPbSMU, 2022. 52 p.).

In 2023 it is planned to continue publishing educational and methodological manuals on the organization of medical care for other socially significant diseases.

Besides, the textbook "Organization and carrying out of quality control of medical care in inpatient conditions" (SPb.: RICP SPbSMU, 2022. 60 p.) has been published.

The staff of the department is preparing the 10th edition of the textbook for students "Public Health and Public Health Care", which will take into account the main wishes and suggestions of students expressed during the questionnaire.

III. Examination tasks and tickets were revised and adjusted in accordance with the lectures and practical classes.

IV. After the restrictions related to COVID-19, the Student Scientific Society was reactivated and 8 students joined it in 2022–2023. A number of students, working in the SSS in clinical departments, addresses to the SSS of the department to supplement their research with statistical data processing and statistical data on the performance of various health services.

CONCLUSION

Sociological survey of students' satisfaction with the organization of the educational process allows to identify problems and difficulties the students face while mastering the discipline "Public Health and Health Care Organization". The analysis helps to identify the most difficult topics, to assess the quality of lectures and teaching materials, to determine the attitude of students as well as to outline measures for further improvement of the educational process, taking into account students' recommendations.

ADDITIONAL INFORMATION

Author contribution. Vishnyakov N.I. — collection of materials, text editing, development of proposals for improving the educational process at the department; Klyukovkin K.S., Kochorova L.V. — text editing; Okulov M.V. — statistical processing of materials; Shapiro K.I. — collection and processing of material, statistical processing, writing text.

Competing interests. The authors declare that they have no competing interests.

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ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Вишняков Н.И. — сбор материала, редактирование текста, разработка предложений по совершенствованию учебного процесса на кафедре; Клюковкин К.С., Кочорова Л.В. — редактирование текста; Окулов М.В. — статистическая обработка материалов; Шапиро К.И. — сбор и обработка материала, статистическая обработка, написание текста.

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GENDER IDENTITY AND SEXUAL BEHAVIOR IN THE STRUCTURE OF MENTAL PATHOLOGY IN CASES OF SCHIZOPHRENIA AND MENTAL DEVELOPMENT DISORDERS

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ABSTRACT. The article presents a study of sexual identity and sexual behavior of male gender diagnosed with "schizophrenia" (S) and "mental retardation" (MR). The object of the study was presented by two groups of 80 patients of psychoneurological boarding schools of St. Petersburg — a group with a diagnosis of "mental retardation" (MR) — 40 men and a group with a diagnosis of "schizophrenia" (S) — 33 men. The age of the groups represented ranged from 21 to 42 years. Many years of experience with this contingent of people allowed us to formulate a hypothesis according to which a direct connection between the characteristics of the sexual sphere and the sphere of sexual identity with the manifestation and dynamics of the disease takes place. With the help of the clinical-phenomenological method and the psychodiagnostic technique "Thematic Apperceptive Test" (TAT), as well as statistical procedures of correlation, cluster and factor analysis nonparametric Mann–Whitney U-test, structural and dynamic analysis was carried out and clinical data were obtained, unique psychopathological phenomena of the sexual sphere and the sphere of sexual identity of these patients were described. The specificity of the claimed material and the objectives of the study is that only content analysis, long-term clinical observations, direct work with patients in the rehabilitation process are able to assess the existing spectrum of deviations.

KEY WORDS: mental retardation; schizophrenia; homosexuality; transsexual propensities.

ПОЛОВАЯ ИДЕНТИЧНОСТЬ И СЕКСУАЛЬНОЕ ПОВЕДЕНИЕ В СТРУКТУРЕ ПСИХИЧЕСКОЙ ПАТОЛОГИИ ПРИ ШИЗОФРЕНИИ И РАССТРОЙСТВАХ ИНТЕЛЛЕКТУАЛЬНОГО РАЗВИТИЯ

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РЕЗЮМЕ. В статье представлено исследование половой идентичности и сексуального поведения мужчин с диагнозами «шизофрения» и «умственная отсталость (расстройства интеллектуального развития)». Объектом исследования выступили разделенные на две группы 73 пациента психоневрологических интернатов Санкт-Петербурга — группа с диагнозом «умственная отсталость» — 40 мужчин и группа с диагнозом «шизофрения» — 33 мужчины. Возраст пациентов обеих представленных групп составил от 21 года до 42 лет. Имеющийся опыт работы с указанным контингентом позволил сформулировать гипотезу, в соответствии с которой при шизофрении половая идентичность и либидо представляют собой гармоничные по сути своей производные психического заболевания, компоненты системы психопатологических феноменов, встроенные в структуру и динамику психоза, в то время как у части лиц с нарушениями интеллектуального развития выявляются тенденции, имеющие поверхностное феноменологическое сходство с истинным гомосексуализмом и транссексуализмом, однако механизмы последнего, исходя из общей картины поведения, следует понимать как инфантильную сексуальность. С помощью клинико-феноменологического метода и психодиагностической методики «Тематический апперцептивный тест» (ТАТ), а также с привлечением статистических критериев хи-квадрат (χ^2) и U-критерия Манна–Уитни был проведен структурно-динамический анализ и получены клинические данные, описаны значимые психопатологические феномены сексуальной сферы и сферы половой идентичности. Спецификой заявленного материала и целей исследования является привлечение контент-анализа, комбинированно распространяющегося как на результаты клинического наблюдения, так и на результаты патопсихологического исследования, полученные при длительной непосредственной работе с больными в процессе их реабилитации.

КЛЮЧЕВЫЕ СЛОВА: умственная отсталость; шизофрения; гомосексуальность; транссексуальные тенденции.

INTRODUCTION

Analysis of numerous literature sources both in Russian and foreign science, reflecting the state of the problem of gender identity disorders, which are based on the dissatisfaction with one's innate gender and the social role associated with it, ranging from mild forms of "doubts about gender" to gross manifestations of "gender denial" with the desire to change it, reveals a sharp increase in the number of patients with this disorder [10, 13, 15, 16, 20, 24, 30].

Cases of spontaneous desire to change the biological gender to the opposite one in adolescence as a manifestation of age-related negativism and a tribute to fashion, which is caused by dependence on other people's opinions and increased suggestibility that has no connection with true gender identity disorders, are becoming more frequent [13, 15]. At the same time, an increased incidence of gender identity disorders has been reported in endogenous mental illnesses and personality disorders [1, 4, 7, 19, 21, 21, 23, 25, 26].

On the basis of these trends in the diagnosis of transsexualism (a condition based on the gender identity disorders manifested by the desire to live and be perceived by others as a person

of the opposite sex, usually accompanied by a feeling of discomfort from one's anatomical gender or a feeling of inappropriateness of one's gender), differentiation of its secondary manifestations from phenomenologically similar forms of behaviour becomes particularly relevant [22]. This may be explained by the fact that some pathological mental states may be inherently characterised by true transsexual tendencies, initially constituting components of the personality of a sick person, while other forms of mental pathology reveal only outwardly similar manifestations to transsexuality, which is exogenous in nature, brought into the pathogenetic structure of the disease and actually having different psychophysiological mechanisms. More detailed psychological analysis shows that these phenomes are not identical to each other [18, 19, 26, 27].

There are not many works describing the relationship between the pathological structure of personality or mental illness and the phenomenology of sexual identity and sexual behaviour disorders in the foreign and Russian literature [2].

Most of the scientific interest in this area is related to the search for the role of gender identity disorders in the context of non-severe and borderline forms of mental disorders [5, 13], which is fraught with diagnostic incorrectness, complicated by the lack of a generally accepted and consistent theory of the etiology and pathogenesis of transsexualism.

It should not be ignored that the presence of clinical picture and the dynamics of gender identity disorders itself can be secondary to the known psychopathological symptomatology [4]. The situation is complicated by the apparent insufficiency of works, the vector of which is related to the research of secondary disorders of sexual identity in the structure of such progredient disorders as schizophrenia, the consequences of organic brain lesions, in particular, accompanied by mental dysontogenesis. Such a problematic information field can, in principle, serve as the basis for an independent line of research activity, solving the problem of assessing gender identity disorder as a relatively autonomous or derivative phenomenon within the framework of the mental illnesses.

The clinicopathological approach in the research of deviations of sexual attraction and sexual identity was applied at the end of the XIX century by the German scientist Richard Kraft-Ebing [8]. In his monumental work "The sexual psychopathy", the author considered such phenomena as transsexualism, homosexuality, as well as such perversions as sadism, masochism, exhibitionism, necrophilia and many others as derived from organic brain disorders, in particular congenital and acquired dementia, epilepsy and endogenous psychoses.

Indeed, the differential diagnosis of transsexualism and complex sexual perversions with other psychopathological phenomena accompanied by gender identity disorder is complex and raises many questions. The most relevant is the question of the existence of these phenomena outside the clinical context. A lot of works by Russian authors who consider gender identity disorders in the context of the clinical picture of mental illnesses describe the presence of this phenomenon mainly within the framework of non-psychotic forms of mental disorders, such as schizotypal personality disorder, character pathologies, neurotic personality structure, which is most likely caused by the very presence of gender dysphoria [10, 13]. It is worth noting that similar affective and neurotic disorders of the non-psychotic spectrum within gender identity disorder (GID) and homosexuality have been considered outside the clinical context [4, 17, 18, 25].

In modern clinical psychiatry, there are a few studies describing disorders of sexual identity and sexual behaviour as part of malignant pathological mental states accompanied by gross personality deformation, and the description of sexual desire in these studies is secondary and is not considered as a separate phenomenon. For example, some clinical studies have shown a higher incidence of schizophrenia among individuals with gender identity disorders compared to the general population [12].

In the work of a series of authors, it was suggested that the formation of brain structures may be influenced by peculiarities of development and further functioning of the endocrine system, accompanied by a decrease in the androgynous index, which makes full-fledged puberty impossible. The same processes can become triggers for the actualisation of schizophrenia and, according to the principle of feedback, prerequisites for the vulnerability of the brain itself [9]. In particular, it has been proved that the leading factor in the pathogenesis of schizophrenia is asynchrony in the formation of the dopaminergic structures pre-

sent in the early stages of child growth and interacting with the limbic system, where important morphological formations that determine sexual behaviour are located [14]. Thus, the processuality of schizophrenia itself, encompassing the entire structure of the patient's personality, begins to affect his sexual behaviour [3].

Some studies indicate that disorders of sexual behaviour and sexual identity may be associated with the role of the schizophrenic process in the formation of sexual identity and sexual desire, which in the dynamics of the disease take the form of paranoid and delusional phenomenology [11]. For example, in the clinical picture of sexual identity disorders in combination with the schizophrenic process, the phenomena of interpretive delusions and delusions of reincarnation containing sexual fabula have been identified [10]. A number of authors have pointed out that the complex disharmony of puberty in schizophrenia in adolescence is a favourable ground for sexual disorders and deviations of sexual identity, acting as a primary pathognomonic link of psychiatric disorders [22]. N.G. Neznanov et al. [11] note that in schizotypal personality disorder in adolescents, sexual behaviour often becomes an area where deviations are particularly striking, and one has to deal with actions that go far beyond the boundaries of asocial groups. These include forcing sex on members of the family, including parents, the elderly, and minors; particularly perverse ways of satisfying the urge. J.W. Wanta et al. [28] found the features characteristic of schizophrenia patients in the premorbid period during investigating the mental health of individuals with sexual dysphoria in a clinical study, including parents, elderly, and young children. V. Warrier et al. [29], also came to the conclusion about the increased level of autism and autistic traits in transgender people.

S.N. Matevosyan and G.E. Vvedensky [10] described the phenomena of gender identity disorders in the schizophrenia, as well as the ideas of bipolarity and absence of sex, which have a complex structure and manifest themselves in the form of symbolic metaphysical constructions. A.Y. Avilov and A.P. Bizyuk [3] noted that these phenomena in schizophrenia do not have narcissistic, aesthetic and erotic content peculiar to transsexuals, and are not supported by the peculiarities of sexual attraction. The authors described the creation of neologisms with sexual content, as well as manifestations of sexuality characteristic of such patients in the form of the declaration of sexual perversions in diagnostic conversation, not supported by real everyday sexual behaviour, as well as the presence of overvalued ideas of masturbation as an action of special significance.

In comparison with persons suffering from mental disorders, particularly schizophrenia, a special place in the interpretation of transsexual and homosexual tendencies is occupied by the phenomena found in adult patients suffering from mental retardation.

Thus, from the general mass of mental retardation D.N. Isaev singled out a special form of underdevelopment in adolescents — dysphoric pathocharacterological structure of personality, whuch is manifested by affective agitation, dysphoria, pathology of urges and hypersexuality [6]. In the author's opinion, these psychopathological features are associated with the lesion of functional systems represented in the deep structures of the brain and are in a more or less constantly excited state, and the underdevelopment of these structures is the main cause of the formation of transsexuality and homosexuality, which in some cases confirms the dysontogenetic nature of these disorders.

A.Y. Avilov and A.P. Bizyuk [3] found a whole complex of disorders of sexual behaviour and sexual identity in a significant part of this group of persons durin studying men with mental retardation in a psychoneurological boarding school for a long time. These include homosexuality, cross-dressing, and transsexual tendencies. The authors described these individuals living in permanent homosexual couples, accompanied by a range of feelings from sympathy to love, as well as sexual excitement from presenting themselves in a female role. There have also been cases of presenting oneself as a woman or a person with a mixture of male and female sexual characteristics. R. Blanchart [18] discribed it in transgender people as a state of "autogenephilia" and "partial genephilia". These phenomena require a detailed study to form an objective idea of the dysontogenetic role of sexual behaviour and gender role identity in psychiatric pathology.

PURPOSE AND OBJECTIVES OF THE RESEARCH

The aim. To analyse the psychopathological differences of gender identity and sexual beha-

viour disorders in schizophrenia and intellectual developmental disorders.

Objectives of the study:

1. To characterise the nosological specificity of GID in schizophrenia and intellectual developmental disorders.
2. To give a qualitative comparative assessment of the manifestations of GID and sexual behaviour in schizophrenia and intellectual developmental disorders, to characterise possible psychophysiological regularities of the differences found.

Hypothesis: in schizophrenia, sexual identity and libido are essentially harmonious derivatives of mental illness, components of a system of psychopathological phenomena embedded in the structure and dynamics of psychosis, while some individuals with intellectual development disorders show tendencies that have superficial phenomenological similarities to true homosexuality and transsexualism. However, its mechanisms, based on the general pattern of behaviour, should be interpreted as an infantile sexuality.

MATERIALS AND METHODS

The object of the study was 73 men in the age range from 21 to 43 years old who were patients of one of the psychoneurological boarding schools in St. Petersburg. The group of patients with schizophrenia consisted of 33 men (the average age was 39.5 years), the group of patients with mental retardation — 40 men (the average age was 30.2 years).

Criteria for inclusion in the group of schizophrenia: 1) the diagnosis according to ICD-10 from the headings F20.0–20.9; 2) the formed mental defect, which determines the impossibility of independent life support of the patient and, as a consequence, the need to stay in a psychoneurological boarding school; 3) the state of stable remission, excluding the patient's hospitalisation in a psychiatric hospital. Criteria for non-inclusion in the schizophrenia group: The ICD-10 diagnosis from the F00–1x and F30–99 headings.

Criteria for exclusion from the schizophrenia group: 1) the refusal to perform test tasks; 2) the failure to understand the meaning of the questions asked by the researcher.

Criteria for inclusion in the mental retardation group: 1) the ICD-10 diagnosis from the F70–79 rubrics; 2) the underdevelopment of intellectual functions, which determines the inability of the patient to support himself/herself and, as a consequence, the need to stay in a psychoneurological boarding school; 3) the state of stable remission, excluding the patient's hospitalisation in a psychiatric hospital.

Criteria for non-inclusion in the mental retardation group: the ICD-10 diagnosis from F00–69 to F80–99.

Criteria for exclusion from the mental retardation group: 1) the refusal to perform test tasks; 2) the failure to understand the meaning of the questions asked by the researcher.

Statistical processing of the results. To describe qualitative (categorical) variables, absolute (n) and relative (%) values in the group were used. The χ^2 test was used to compare qualitative variables. The values of asymmetry (As) and excess (Ex) and their standard errors (p) were used to test the normality of the distribution of quantitative variables. The sample was considered to conform to normal distribution if the absolute values of As and Ex did not exceed their standard errors. Description of quantitative variables in non-normal distribution of variables — median (Me) and 1st and 3rd quartiles. The Mann–Whitney U test was used to compare samples with non-normal distribution. Differences were considered statistically significant at $p < 0.05$.

Nosological characteristics. In the schizophrenia group, the predominant diagnosis was Paranoid Schizophrenia (F20.0) — in 75% of cases. In 25% of cases there was a diagnosis of "Simple schizophrenia" (F20.6). The group of patients with mental retardation was dominated by patients with mild degree.

All patients in the schizophrenia group were in persistent remission with pharmacological support at the time of examination. 58% of patients were treated with olanzapine, 25% with clozapine, and 16% with haloperidol. 2% of patients had debut at the age of 14–18 years, 58% at 18–25 years, and 40% at 25–30 years. The type of course in all patients was continuous with profound personality defect. The leading syndromes at the time of examination were paranoid (75%) and apathetic-abolic (25%). In patients with paranoid schizophrenia, dysmorphomanic delirium, delirium of invention, delirium of attitude and persecution were in the foreground of the clinical picture.

All patients with mental retardation had previously studied in a remedial school. 67.59% of patients with schizophrenia had secondary special education.

Most patients with mental retardation had been living in neuropsychiatric institutions since the age of 4 years. Only 3.1% of them were briefly adapted in their families. In the schizophrenia group, all subjects were brought up in the family, 64.23% of them by their mothers only. A close family relations were more often absent in patients with mental retardation (82.34% of cases) compared to schizophrenia patients (27.27% of cases).

Analysis of sexual behaviour showed that 100% of mental retardation patients and 84.87% of schizophrenia patients had sexual experience. As a rule, the first sexual experience in the mental retardation group was consensual with a homosexual partner (89.52%). In the schizophrenia group, the first contact was more often heterosexual (83.81%) and in 15.13% it was absent at all. At the time of examination, 82.76% of the patients with mental retardation were having regular sexual life, while in the schizophrenia group no one was having sexual life.

Comparative characterisation of the frequency of occurrence of various factors of dysontogenesis in patients of both groups is presented in Table 1. The table shows that all the factors under consideration were statistically more frequently presented in patients with mental retardation.

To make it possible to translate the clinical observations into an acceptable quantitative form, an evaluation system was developed, providing a four-point scale (Tables 2a and 2b), in which the complete absence of a distinguishable feature was labelled as 0 points, a weak degree of severity — 1 point, a marked degree of severity — 2 points, and reaching the level of certain morbidity — 3 points. The authors are aware that the quantitatively represented psychological "distance" between the proposed scores, as well as their content load, may in fact be different, and that we have to deal predominantly with the rank organisation of such symptoms. Here we have to accept with the fact that the specifics of the material under study, which is based on the ideographic approach, generally do not allow us to construct a strict scale that could fully satisfy the principle of amparametric statistics.

At the same time, as research practice has shown, even such a modest spread of attributes already provides grounds for a number of conclusions.

Table 1

Summary table of registered psychophysiological factors of dysontogenesis

Таблица 1

Сводная таблица регистрируемых факторов дизонтогенеза

Характеристика фактора / Factor characteristic	**Умственная отсталость, % / Mental retardation, %**	**Шизофрения, % / Schizophrenia, %**	χ^2	**p**
Тотальная задержка пубертата / Total delay of puberty	39	10	36,999	0,001
Наследственная отягощенность / Hereditary aggravation	35	14	16,649	0,001
Токсикоз беременности матери и ее эндокринная патология / Toxicosis of the mother's pregnancy and her endocrine pathology	26	11	7,254	0,008
Гипертензивный синдром и повышенная возбудимость / Hypertensive syndrome and increased excitability	39	27	5,129	0,024
Признаки психического инфантилизма / Signs of mental infantilism	40	9	39,603	0,001
Задержка психосексуального развития / Delayed psychosexual development	37	25	3,960	0,047
Задержка соматосексуального развития / Delayed somatosexual development	37	12	25,821	0,001
Диспластический вариант конституции / Dysplastic version of the constitution	34	19	6,837	0,009

Table 2a

Rating system for sexual behavior and gender role identity of men with mental retardation and schizophrenia

Таблица 2а

Система оценки особенностей сексуального поведения и полоролевой идентичности мужчин с умственной отсталостью и шизофренией

Сексуальная сфера / The sexual sphere			**Баллы / Points**
1	Сексуальная разборчивость (СР) / Sexual intelligibility (SI)	Безразличие в сексуальной сфере / Sexual in difference	0
		Слабо дифференцированная по полу и внешности направленность сексуального поведения / Weakly differentiated by gender and appearance orientation of sexual behavior	1
		Дифференцированная по полу и внешности направленность сексуального поведения / Sexual behavioral orientation differentiated by gender and appearance	2
		Изощренная избирательность в выборе полового партнера / Sophisticated selectivity in choosing a sexual partner	3
2	Гомосексуальные предпочтения (ГМП) / Homosexual preferences (HMP)	Не проявляет сексуального интереса к мужчинам / Doesn't show sexual interest in men	0
		Наличие равного сексуального интереса к лицам обоих полов / Having equal sexual interest in both genders	1
		Доминирующее сексуальное влечение к мужчинам при наличии редких сексуальных эпизодов по отношению к женщинам / Dominant sexual attraction to men with infrequent sexual episodes toward women	2
		Исключительно гомосексуален / Exclusively homosexual	3
3	Гетеросексуальные предпочтения (ГТП) / Heterosexual preferences (He RP)	Не проявляет сексуального интереса к женскому полу / No sexual interestin the female gender	0
		Наличие равного сексуального интереса к лицам обоих полов / Having equal sexual interestin both genders	1
		Доминирующее сексуальное влечение к женщинам при наличии редких сексуальных эпизодов по отношению к мужчинам / Dominant sexual attraction to women with infrequent sexual episodes toward men	2
		Исключительно гетеросексуален / Exclusively heterosexual	3
4	Другие формы сексуальных предпочтений (ДФСП) / Other forms of sexual preference (OFSP)	Отсутствие потребности сексуального удовлетворения с неодушевленными предметами или устойчивые сексуальные отношения с партнером / Lack of need for sexual gratification with inanimate objects or a stable sexual relationship with a partner	0
		Имеются единичные случаи сексуального удовлетворения с неодушевленными предметами / There are isolated instances of sexual gratification with inanimate objects	1
		Стойкие проявления сексуального удовлетворения с неодушевленными предметами / Persistent displays of sexual gratification with inanimate objects	2
		Секс с неодушевленными предметами как патологическая (сверхценная) идея / Sex with inanimate objects as a pathological (supervalue) idea	3
5	Проявление сексуальных перверсий (ПСП) / The manifestation of sexual perversion (MSP)	Отсутствие сексуальных перверсий / No sexual perversions	0
		Редкие фетишистские явления, эксгибиционизм / Rare fetishistic phenomena, exhibitionism	1
		Периодические фетишистские явления и эксгибиционизм / Periodic fetishistic phenomena and exhibitionism	2
		Стойкие фетишистские явления и эксгибиционизм, в том числе гомосексуального характера / Persistent fetishistic phenomena and exhibitionism, including of a homosexual nature	3

Окончание табл. 2а / Ending of the table 2a

Сексуальная сфера / The sexual sphere			Баллы / Points
6	Нарциссизм (Н) / Narcissism (N)	Безразличное отношение к своей внешности / Indifferent attitude to one's appearance	0
		Следит за своей внешностью в пределах общепринятых норм / Takes care of his appearance within accepted norms	1
		Периодическое наличие явлений нарциссизма / The occasional presence of narcissistic phenomena	2
		Стойкие явления нарциссизма, в том числе любование собой в сочетании с представлением себя в образе противоположного пола / Persistent phenomena of narcissism, including self-love combined with presentation of oneself in the image of the opposite sex	3
7	Мастурбация (М) / Masturbation (M)	Не мастурбирует / Not masturbating	0
		Мастурбирует редко / Masturbates infrequently	1
		Мастурбация как преимущественное средство сексуальной жизни / Masturbation as a primary means of sexual activity	2
		Навязчивая мастурбация, мастурбация как сверхценная идея / Compulsive masturbation, masturbation as a supervalue idea	3
Полоролевая идентичность / Gender identity			
8	Считает себя мужчиной (ССМ) / Considers himself a man (CHM)	Не дифференцирует себя по полу / Doesn't differentiate himself by gender	0
		Попеременно считает себя то женщиной, то мужчиной / He alternately sees himself as a woman and a man	1
		Считает себя больше мужчиной, чем женщиной / Thinks of herself himself more of a man, than a woman	2
		Определенно считает себя мужчиной / Definitely considers himself a man	3
9	Считает себя женщиной (ССЖ) / Considers herself a woman (CHW)	Не дифференцирует себя по полу / Doesn't differentiate himself by gender	0
		Попеременно считает себя то женщиной, то мужчиной / He alternately sees himself as a woman and a man	1
		Считает себя больше женщиной, чем мужчиной / Thinks of herself as more of a woman than a man	2
		Определенно считает себя женщиной / Definitely considers himself a woman	3
10	Транссексуальные тенденции (ТСТ) / Transsexual tendencies (TST)	Не проявляет транссексуальных тенденций / Doesn't exhibit transsexual tendencies	0
		Редкие упоминания о желании жить и родиться женщиной / Rare references to the desire to live and to be born a woman	1
		Проявляет интерес и желание жить и родиться женщиной, фемининность в поведении / Demonstrates interest and desire to live and be born female, femininity in behavior	2
		Наличие стойкого желания жить и родиться женщиной, иметь женские анатомические особенности в сочетании с самосознанием себя женщиной / Persistent desire to live and be born a woman, to have female anatomical features combined with self-awareness of being a woman	3
11	Кросс-дрейсинг (КД) / Cross-dressing (CD)	Никаких реальных или вербально выражаемых тенденций к переодеванию в женскую одежду не отмечается / No real or verbally expressed tendencies to change into women's clothing are noted	0
		Переодевание в женские одежды носит эпизодический характер / Dressing up in women's clothes is episodic	1
		Периодически надевает элементы женской одежды / Occasionally wears elements of women's clothing	2
		Имеется стойкая потребность в переодевании в свободное время, некоторые элементы женской атрибутики (нижнее белье) носит постоянно, в беседах декларирует свои предпочтения / There is a persistent need to change clothes in free time, some elements of female paraphernalia (underwear) is worn constantly, in conversations he declares his preferences	3

Table 2b

A system for assessing sexuality and gender role identity features in TAT interpretations in men with mental retardation and schizophrenia

Таблица 2б

Система оценки особенностей сексуальности и полоролевой идентичности в интерпретациях ТАТ у мужчин с умственной отсталостью и шизофренией

	Система оценки / Rating system		**Баллы / Points**
1	Идентификация с героем противоположного пола (ИСГПП) / Identification with a hero of the opposite sex (IWHOS)	Не идентифицирует себя с героем противоположного пола / Doesn't identify ontself with a hero of the opposite sex	0
		Идентификация с героем противоположного пола в предложенной серии картин встречается не более 1–2 раз / Identification with a hero of the opposite sex in the proposed series of pictures occurs no more than 1–2 times	1
		Идентифицирует себя с героем противоположного пола в большинстве интерпретаций предложенных таблиц (картин) / Identifies with the hero of the opposite sex in most interpretations of the proposed tables (pictures)	2
		Регулярная и ярко выраженная идентификация с героем противоположного пола, проекция своих чувств и мыслей на этого героя / Reular and pronounced identification with the hero of the opposite sex, projection of one's feelings and thoughts onto this hero	3
2	Идентификация с героем своего пола (ИСГСП) / Identification with the hero of his own gender (IWHOG)	Не идентифицирует себя с героем своего пола / Doesn't identify oneself with the hero of his gender	0
		Идентификация с героем своего пола в предложенной серии картин встречается не более 1–2 раз / Identification with a character of one's own gender occurs no more than 1–2 times in the proposed series of paintin	1
		Идентифицирует себя с героем своего пола в большинстве интерпретаций предложенных таблиц / Identifies with the hero of his gender in most interpretations of the suggested tables	2
		Стойкая и ярко выраженная интерпретация, проекция своих чувств и мыслей на героя своего пола / Persistent and pronounced interpretation, projection of one's feelings and thoughts onto a hero of one's own gender	3
3	Искажение воспринимаемого пола персонажей (ИПП) / Distortion of the perceived gender of the characters (DGC)	Правильно определяет пол персонажа / Correctly identifies the gender of the character	0
		Наличие искажений пола персонажа в предложенной серии картин встречается не более 1–2 раз / The presence of distortions of the character's gender in the proposed series of paintings occurs no more than 1–2 times	1
		Искажение пола персонажа носит системный характер / The distortion of a character's gender is systemic	2
		Искажение пола персонажа носит системный характер и сопряжено с любовной или сексуальной фабулой / The distortion of a character's gender is systemic and is paired with a love or sexual fabula	3
4	Искажение воспринимаемого возраста персонажей (ИВП) / Distortion of the perceived age of the characters (DAC)	Правильно определяет возраст персонажа / Correctly identifies the age of the character	0
		Наличие искажений возраста персонажа предложенной серии картин встречается не более 1–2 раз / The presence of distortions of the age of the character of the proposed series of pictures occurs no more than 1–2 times	1
		Искажение возраста персонажа встречается при интерпретации большинства предложенных таблиц / Distortion of the character's age is found in the interpretation of most of the proposed tables	2

Окончание табл. 2b / Ending of the table 2b

	Система оценки / Rating system		Баллы / Points
		Искажение возраста персонажа встречается при интерпретации большинства предложенных таблиц, имеется смысловая и эмоциональная нагрузка таких искажений, а также их связь с собственной идентичностью / Distortion of the character's ageis found in the interpretation of most of the proposed tables, there is a semantic and emotional load of such distortions, as well as their connection with one's own identity	3
5	Наличие сексуальных мотивов (НСМ) / The presence of sexual motives (PSM)	Отсутствие сексуальных мотивов / Lack of sexual motivation	0
		Интерпретации, включающие сексуальную тематику в предложенной серии картин, встречаются не более 1–2 раз / Interpretations that include sexual themes in the proposed series of paintings occur no more than 1–2 times	1
		Сексуальная тематика встречается при интерпретации большинства предложенных таблиц / Sexual themes are found in the interpretation of most of the proposed tables	2
		Интерпретации, включающие сексуальную тематику, присутствуют для большинства предложенных таблиц, ярко выражены и являются основной фабулой историй / Interpretations that include sexual themes are present for most of the proposed tables, are explicit and are the main fabula of the stories	3
6	Сексуальные перверсии (СП) / Sexual perversions (SP)	Нет упоминаний сексуальных перверсий / No mention of sexual perversions	0
		Интерпретации, включающие сексуальные перверсии, для предложенной серии картин встречаются не более 1 раза и не выражены / Interpretations involving sexual perversions for the proposed series of paintings occur no more than 1 time and are not pronounced	1
		Описания сексуальных перверсий присутствуют в большинстве интерпретирующих рассказов / Descriptions of sexual perversions are present in most interpretive narratives	2
		Интерпретации, включающие сексуальные перверсии, регулярны, ярко выражены, в том числе присутствующие в них изнасилования или сексуально окрашенные убийства, являются основной фабулой историй и сопряжены с нарушением идентичности / Interpretation sinvolving sexual perversions are regular, explicit, including the presence of rape or sexually colored murders, are the main fabula of the stories, and involve identity disruption	3
7	Гомосексуальные эпизоды (ГЭ) / Homosexual episodes (HE)	Нет упоминаний гомосексуальных эпизодов / No mention of homosexual episodes	0
		Интерпретации, включающие гомосексуальные эпизоды, встречаются в предложенной серии картин не более 1 раза и не выражены / Interpretations involving homosexual episodes occur no more than 1 time in the proposed series of paintings and are not pronounced	1
		Систематические интерпретации, включающие гомосексуальные эпизоды / Systematic interpretations that include homosexual episodes	2
		Описания, включающие гомосексуальные эпизоды, присутствуют в большинстве интерпретирующих рассказов, ярко выражены, имеют эмоциональную окраску, присутствует подробное описание полового акта, гомосексуальная фабула в описании сопряжена с нарушением идентичности и искажением пола персонажа / Descriptions that include homosexual episodes are presentin most of the interpretive stories, are vividly expressed, have emotional coloring, there is a detailed description of sexual intercourse, the homosexual fabula in the description involves violation of identity and distortion of the character's gender	3

Table 3

Differences in the characteristics of sexual behavior and gender role identity of the studied groups

Таблица 3

Различия особенностей сексуального поведения и полоролевой идентичности изучаемых групп

№	Феномены / Phenomena	M [Q1; Q3]		Значимость различий по критерию U Манна–Уитни, p — риск ошибки / The significance of the differences by Mann–Whitney U test; p — the risk of error
		группа шизофрении (n=33) / schizophrenia group (n=33)	группа умственной отсталости (n=40) / a group of mental retardation (n=40)	
	Сексуальная сфера / The sexual sphere			
1	Сексуальная разборчивость (СР) / Sexual intelligibility (SI)	2,00 [1,00; 3,00]	3,00 [2,00; 3,00]	U=506,0 p=0,088876
2	Гомосексуальные предпочтения (ГМП) / Homosexual preferences (HMP)	0,00 [0,00; 0,50]	3,00 [0,00; 3,00]	U=270,0 p=0,000016*
3	Гетеросексуальные предпочтения (ГТП) / Heterosexual preferences (HRP)	1,00 [0,50; 3,00]	1,00 [0,00; 3,00]	U=555,5 p=0,249029
4	Другие формы сексуальных предпочтений / Other forms of sexual preference (OFSP)	2,00 [0,00; 2,50]	0,50 [0,00; 1,00]	U=381,0 p=0,002023*
5	Проявление сексуальных перверсий (ПСП) / The manifestation of sexual perversion (MSP)	2,00 [0,00; 3,00]	2,00 [0,00; 3,00]	U=607,5 p=0,564375
6	Нарциссизм / Narcissism	0,00 [0,00; 2,00]	2,00 [1,00; 3,00]	U=389,5 p=0,002766*
7	Мастурбация / Masturbation	3,00 [0,00; 3,00]	0,00 [0,00; 1,00]	U=414,0 p=0,006508*
	Полоролевая идентичность / Gender identify			
1	Считает себя мужчиной (ССМ) / Considers himself a man (CHM)	3,00 [2,00; 3,00]	2,00 [1,00; 3,00]	U=486,5 p=0,055176
2	Считает себя женщиной (ССЖ) / Considers herself a woman (CHW)	0,00 [0,00; 1,00]	1,50 [0,00; 3,00]	U=404,5 p=0,004708*
3	Транссексуальные тенденции (ТСТ) / Transsexual tendencies (TST)	0,00 [0,00; 1,00]	1,00 [0,00; 3,00]	U=418,0 p=0,007435*
4	Кросс-дрейсинг (КД) / Cross-dressing (CD)	0,00 [0,00; 0,50]	0,00 [0,00; 2,75]	U=471,0 p=0,036682*
	Критерии по TAT / TAT criteria			
1	Идентификация с героем противоположного пола (ИСГПП) / Identification with a hero of the opposite sex (IWHOS)	1,00 [1,00; 2,00]	2,00 [0,25; 3,00]	U=547,5 p=0,214465
2	Идентификация с героем своего пола (ИСГСП) / Identification with the hero of his own gender (IWHOG)	3,00 [2,00; 3,00]	2,00 [1,00; 3,00]	U=506,0 p=0,088876
3	Искажения воспринимаемого пола персонажей (ИПП) / Distortions of the perceived gender of the characters (DGC)	1,00 [1,00; 2,00]	3,00 [1,25; 3,00]	U=241,0 p=0,000004*
4	Искажение воспринимаемого возраста персонажей (ИВП) / Distortion of the perceived age of the characters (DAC)	1,00 [1,00; 1,50]	2,00 [1,00; 3,00]	U=346,5 p=0,000522*
5	Наличие сексуальных мотивов (НСМ) / The presence of sexual motives (PSM)	1,00 [0,00; 3,00]	2,00 [1,00; 3,00]	U=568,5 p=0,313156
6	Сексуальные перверсии (СП) / Sexual perversions (SP)	1,00 [0,00; 2,00]	2,00 [0,00; 3,00]	U=529,5 p=0,149616
7	Гомосексуальные эпизоды (ГЭ) / Homosexual episodes (HE)	0,00 [0,00; 1,00]	2,00 [2,00; 3,00]	U=324,5 p=0,000205*

* Различия статистически значимы на уровне p <0,05.

RESULTS AND DISCUSSION

The differences in the scores of the studied attributes of sexual behaviour and gender role identity of both groups are shown in Table 3.

In the group of mental retardation all subjects had an increased interest in sexual topics. Here the phenomenon of homosexual behaviour was significantly more frequent. It seems that in the group of mental retardation homosexuality is not primitive in nature, prompted by disinhibition of urges; it is a consequence of a peculiar conscious subculture, including both erotic and aesthetic components. It should also be taken into account that the absolute majority of the subjects identify themselves as homosexuals. As an ideal partner in a relationship, the subjects name a boy or a young man, while they also identify themselves as boys.

Amorous relationships in the group fulfil all the criteria of heterosexual couples with frequent changes of partners, difficult separation experiences, and jealousy of those who like other men and women. A strict hierarchy can be traced in the relationship: the presence of a dominant, more masculine partner who fulfils the role of a man, and a more fragile, feminine, younger partner who fulfils a female role. At the same time, the subjects have negative attitudes towards women. Homosexual projection is also significantly higher in the mental retardation group. These subjects project their homosexual fantasies and experiences more openly in their stories. The theme of love between two men or boys is central to the content of the stories. The male characters are described as handsome, muscular, desirable and young. The female character, on the contrary, is perceived extremely negatively, as cruel, making the man unhappy and corrupting him. The specific misogyny inherent in mentally retarded patients is probably the result of their improper socialisation.

The motivational sphere is also being affected. Thus, when homosexual tendencies are clearly demonstrated, some subjects project their specific motives, fantasies, and experiences onto the relationships of the characters in the picture of the other sex, identifying themselves with women. Homosexual episodes also occur in the schizophrenia group, but with a much lower frequency of manifestation than in the mental retardation group. Nevertheless, it is not possible to interpret this phenomenon as true homosexuality, since, for example, the patient admits his homosexual experience “but only with older men” in the psychiatric hospital. Heterosexual intercourse is denied, and he says that he is attracted to sexual intercourse “but only in the anus”, in both passive and active roles, explaining that this is “convenient for the passage of seminal fluid”. Patients are often disturbed by the feeling of foreignness, the madeness of sexual desire (including homosexual), its violent and burdensome, painful character. In conversation and description of drawings, the patient described the sexual fantasy as an artificial sexual act “with an indeterminate male with a removable plastic tap” or “hose”.

Open, exciting masturbation by the patient is significantly higher in the schizophrenia group. Masturbation has a super-valuable character, it was carried out by a “spiritual hand made of precious stone”, it is described as “sowing the sacred seed”, as a cause of immobility, “petrification” (and the patient really does not walk, only lies down).

The identification of themselves as the subject of sexual desire is characterised by intrapsychic ataxia and symbolism of thought typical of schizophrenic patients, manifested, in particular, by neologisms. For example, the patient calls himself a “homoshist”, i.e. a person who is both homosexual and fetishist. In the course of conversation on the basis of compiled stories based on the stimulus material, patients from the schizophrenia group give pretentious answers with deliberately crude sexual content, interpreting the pictures as a crude sexual act, violence or murder. On the ward, however, they are predominantly passive and show no signs of sexual interest (except for masturbation).

This prompted us, taking into account statistically significant differences, to label the typical form of sexual gratification in schizophrenia discussed above as “other forms of sexual preference”. For example, to satisfy his sexual desire with dolls purchased in a shop, which are figures of young, slender and attractive women, the patient, creating a preferred sexual image for himself, simultaneously buys for them sexual, from his point of view, clothes (high boots, short shorts, provocative blouses, etc.) and calls them wives. Another patient satisfies his sexual desire with pictures of provocatively lewd women drawn by himself. Even the heterosexual nature of the sex drive is included in a complex

structure of delusions. For example, the patient is exclusively attached to one of the female staff members and sees in all her behaviour a complex symbolism of love signs for him in order to lure him into sexual defilement or participation in an orgy. The sexual interest of the patient is usually passive. Even sexual content in the form of pornography does not interest the patients. Their sexual interest does not go beyond delusions and is strictly included in the dynamics of the illness.

It is should be noted that gross, delusional sexual production in schizophrenia is manifested only in very young patients; as they grow older, it begins to have an increasingly symbolic, metaphysical character. To characterise the sexual behaviour of patients in both groups, we identified such an important factor as manifestations of sexual perversions, which showed no statistically significant differences (Table 3) and differed only qualitatively. Thus, exhibitionism in the group of mental retardation had a frequent and persistent manifestation in the form of demonstrations of genitals to representatives of one's sex from favourite living and had a clear sexual connotation. In the schizophrenia group the patients also showed similar behaviour, but it had no direction and had a more aimless character of open masturbation. In the vast majority of cases of perversions in the schizophrenia group, they manifested the phenomena of other forms of sexual preference described above.

Transsexual tendencies prevailed considerably in the group of patients with mental retardation; most of the patients readily admitted that they wished they had been born women, copied feminine behaviour in everyday life, and gave their appearance an accentuated feminine appearance. Cross-dressing was also prevalent in the mental retardation group; patients willingly changed into women's clothes, wore women's underwear, tights and shoes, and walked around the ward in this manner, with their inherently caricatured femininity and sensuality, swaying their hips as they walked, often fixing their hair, speaking in a high tone of voice, and gesticulating vigorously. In the schizophrenia group, these phenomena also occurred, but with a different meaning, manifesting themselves in pretentiousness, ataxia, and paralogical phenomena. For example, a patient claimed that he wanted to become a woman because he liked female names and surnames better. In his passport he wants to be recorded as a woman, and he dresses up in some female clothes for exercise. Another patient claimed that he became a woman when at a young age he swallowed an object that looked like an ice cube, because of which he feels a female essence inside him, causing him mental and physical suffering.

DISCUSSION

In schizophrenia and intellectual developmental disorders the nature of sexual identity and sexual behaviour is altered. Nosological specificity plays a significant role, which redefines the nature of sexual behaviour and sexual identity.

In male intellectual developmental disorders, a similarity to true homosexuality and transsexualism develops, but its mechanisms, based on the overall pattern of behaviour, should be understood as infantile sexuality. In schizophrenic males, sexual behaviour and gender role identity are bizarre perversions in the form of metaphysical interpretation of sexuality and gender identity, satisfaction of sexual desire with inanimate objects, compulsive masturbation and making it super-valuable. There are delusional interpretations of homosexual and transsexual tendencies.

CONCLUSION

The mechanism of sexual behaviour and gender role identity in mental retardation is a variant of dysontogenetic infantile sexuality. Such peculiarities, apparently, are caused by two factors. Firstly, the general underdevelopment of the psyche due to organic causes (the prenatal and postnatal cerebral pathology), resulting in delayed sexual development and insufficient formation of reflexion inherent to normal psyche. And secondly, the formation of sexual maturation in the special conditions of a psychoneurological boarding school.

In the formation of sexual behaviour and gender-role identity in schizophrenia, physiologically preserved "fragments" of premorbid sexual and gender-role properties of the personality merge with the immediate clinical manifestations of the disease. As a result, the patient's libido is transformed and sexual behaviour and

gender-role identity are formed according to schizophrenic type, resulting in its disorders and perversions pathognomonic of this category of patients, manifested by paranoid delusions (being inside the female essence, feeling of being both male and female, feeling of being made of sexual intercourse, metaphysical interpretation of masturbation) and gross pretentiousness (demonstrative interpretation of pictures as manifestations of sexual cruelty and violence, as well as demonstrative masturbation).

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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INFLUENCE OF WORKING CONDITIONS ON THE STATE OF HEALTH AND LABORATORY INDICATORS OF EMPLOYEES WHEN PERFORMING WELDING WORKS

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ABSTRACT. Currently, the profession of a welder is one of the most sought after in various industries. The purpose of the work is to analyze working conditions, health indicators and determine the significance of laboratory tests regulated as part of periodic medical examinations for the timely diagnosis of changes in the health status of electric and gas welders working and living on the territory of the Republic of Bashkortostan. A clinical and diagnostic examination of workers — electric and gas welders working at the enterprises of the republic was carried out. The influence of harmful production factors is considered: chemical, physical and the severity of the labor process. Diseases of the musculoskeletal and nervous systems, diseases of the circulatory system, respiratory organs, and sensorineural hearing loss with signs of noise exposure were identified. Reliable changes in laboratory parameters were diagnosed depending on the length of service and the duration of contact with production factors. It is necessary to carry out dispensary observation of this category of workers with the development and justification of individual medical and preventive measures.

KEY WORDS: working conditions; electric and gas welder; differential diagnosis.

ВЛИЯНИЕ УСЛОВИЙ ТРУДА НА СОСТОЯНИЕ ЗДОРОВЬЯ И ЛАБОРАТОРНЫЕ ПОКАЗАТЕЛИ РАБОТНИКОВ ПРИ ВЫПОЛНЕНИИ СВАРОЧНЫХ РАБОТ

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РЕЗЮМЕ. В настоящее время профессия сварщика является одной из самых востребованных в различных отраслях промышленности. Цель работы — проанализировать условия труда, показатели здоровья и определить значимость лабораторных исследований, регламентированных в рамках периодических медицинских осмотров для своевременной диагностики изменений в состоянии здоровья электрогазосварщиков, работающих и проживающих на территории Республики Башкортостан. Проведено клинико-диагностическое обследование работников-электрогазосварщиков, работающих на предприятиях республики. Рассмотрено влияние вредных производственных факторов: химического, физического и тяжести трудового процесса. Выявлены заболевания костно-мышечной и нервной систем, болезни системы кровообращения, органов дыхания и нейросенсорная тугоухость с признаками воздействия шума. Диагностированы достоверные изменения лабораторных показателей в зависимости от стажа работы и длительности контакта с производственными факторами. Необходимо проведение диспансерного наблюдения данной категории рабочих с разработкой и обоснованием индивидуальных медико-профилактических мероприятий.

КЛЮЧЕВЫЕ СЛОВА: условия труда; электрогазосварщик; дифференциальная диагностика.

INTRODUCTION

The Republic of Bashkortostan is one of the largest industrial regions of the Russian Federation. Almost all types of production activities require the involvement of specialists to perform electric and gas welding works — electric and gas welders.

The technological process of electric and gas welding refers to operations with harmful working conditions. Workplaces of electric and gas welders are one of the most unfavorable in terms of the risk of professional diseases [17, 26].

In the course of a labor activity, an electric and gas welder is exposed to a whole complex of dangerous and harmful production factors of physical and chemical nature: radiation, welding aerosol, sparks and splashes of metal and slag, industrial noise, etc. [9, 11, 19, 21].

Industrial aerosols traditionally occupy the leading place among unfavorable factors of the industrial environment for electric and gas welders. Welding aerosol has a combined effect on the body, since harmful substances damage the body by different mechanisms — from fibrogenic and general toxic to allergenic and carcinogenic ones. Thus, it contribute to the formation professional respiratory diseases [10, 30].

Hemogram is the most frequently used clinical blood test to assess the state of health and early diagnosis of changes [3, 15], due to the high lability and rapid reaction of the hematopoietic system to various effects of harmful industrial factors, especially those of chemical etiology. Some of the chemical substances contained in aerosols cause changes in hematopoiesis, others disrupt the synthesis of porphyrin and heme in hemoglobin, while others cause changes in hemoglobin composition and hemolysis [2, 12, 14, 18, 22, 27, 29].

AIM

To determine the significance of laboratory tests, regulated within the framework of perio-

dic medical checkups, for timely diagnostics of changes in the state of health of electric and gas welders working in the territory of the Republic of Bashkortostan.

MATERIALS AND METHODS

According to the Order of the Ministry of Health of the Russian Federation from 28.01.2021 No. 29n and Appendix to the Order of mandatory preliminary and periodic medical checkups of workers, provided by part four of article 213 of the Labor Code of the Russian Federation, a clinical and diagnostic examination of electric and gas welders (225 people) working at the enterprises of the Republic of Bashkortostan in the presence of aerosols of predominantly fibrogenic action (APFD), representing a complex mixture of multidirectional action, was carried out.

All examined workers were men aged from 47,16 to 48,34 years, with an average total length of service of 23,66±0,66 years.

Hematologic and biochemical methods of research were used in the survey, according to generally accepted methods [20]. The results of the studies were processed using the STATISTICA 6.0, a statistical analysis software package, mean values, Student's coefficient (t) and significance level (p) were determined. Age determinacy of health disorders was assessed using correlation coefficient (r) and non-parametric χ^2 criterion.

RESULTS AND DISCUSSION

According to the results of the special assessment of working conditions (SAWC) of electric and gas welders, the leading harmful and hazardous factor is a chemical one, represented by substances of the 1–4th class of hazard, which influence the organism in different ways. Welding aerosols constitute a complex mixture of mainly fibrogenic action (amorphous silicon dioxide in a mixture with manganese oxides in the form of condensation aerosol, digelesotrioxide, tungsten, aluminum and its compounds) and chemical substances of different nature, including manganese, zinc, chromium (VI), chromium (III), beryllium, nickel, chromium trifluoride, gases, which have an acute effect on the body. The work of an electric and gas welder is associated with the use of flammable and explosive materials. This occupational group of workers is characterized by a combination of priority factors of working environment and labor process: the chemical factor (class 3.1) noise (class 3.1) and severity of labor process (class 3.1) (Table 1).

The conducted analysis of incidence of general non-infectious morbidity allowed to establish that the first rank is occupied by diseases of the musculoskeletal system (MS). This pathology was detected in 51.56% of the surveyed. Next are diseases of the circulatory system, represented by hypertension and, they are detected in 28.2% of electric and gas welders. Diseases of the nervous system are represented by disorders of the vegetative nervous system — 24.89%. Neurosensory hearing loss and signs of noise exposure amounted to 21.33% of all examined persons.

Low detection rate of respiratory diseases is noteworthy — 1.33% of all the examined workers. Obviously, this is due to the fact that workers do not always provide a doctor with reliable information about their health status when undergoing periodic medical examinations in order to maintain admission to work in harmful and (or) hazardous working conditions. In addition, a lack of caution among specialists conducting these check-ups also contribute to the low detection [1, 4, 23, 28]. Laboratory tests

Table 1

Classification of working conditions for gas welders according to the degree of harmfulness and danger

Таблица 1

Классификация условий труда газосварщиков по степени вредности и опасности

Оценка факторов по критериям Р.2.2.2006-05 / Evaluation of factors according to criteria P.2.2.2006-05				Общая оценка условий труда / General assessment of working conditions
Вредный фактор / Harmful factor	Химический / Chemical	Физический / Physical	Тяжесть труда / Burden of labor	
Электрогазосварщики / Electric and gas welders	3.1	3.1	3.1	3.2

prescribed for medical checkups have an important diagnostic value and allow to give an initial assessment of a general condition, especially for workers exposed to harmful production factors.

Hematological studies have shown that all the examined workers exposed to welding aerosols have normel reference values of a general blood analysis (erythrocytes, hemoglobin, leukocytes and platelets). Except for the "allergenization index" (AI), the average value of which was 1.45±0.03.

Comparative analysis of changes in blood test showed that increased hemoglobin values (more than 160 g/l) were observed in 23.56% of men. Hematocrit changes were detected in 23.11% of the examined patients. Erythrocytosis is found in 16.00% of the examined, which indicates the activation of erythropoiesis. An increase in erythrocyte parameters (MCV) was found in 19.11% of workers and in 27.56% — hemoglobin content in individual erythrocyte (MCH). The findings revealed that a minority of individuals were found to have thrombocytosis. Eosinophilic granulocytes above 5% were diagnosed in 54.22% of electric and gas welders (Table 2).

The results of studies obtained in workers with different length of service are presented in Table 3. Thus, in the group of workers with 11–20 years of experience, the highest indices of erythrocytes, hemoglobin and hematocrit were found compared to similar indices of workers with 0 to 10 years of experience. In parallel with erythrocytosis and high hemoglobin levels, there was a tendency for erythrocyte indices to increase. Constant inhalation of chemical substances in production conditions probably contributes to the phenomena of hypoxia, which may explain the shifts in hematologic indices. Similar researches were conducted [16, 25].

In the available scientific literature there is a few contradictory works devoted to the effect of aerosols of mainly fibrogenic nature which influence on the erythrocytic growth of hematopoiesis of electric and gas welders as the length of work experience increases [11, 13].

To assess the reliability of the results obtained with regard to red blood parameters, we used the χ^2 criterion. Reliability was found for MCV χ^2=5.09 (p <0.001), MCH χ^2=8.84 (p <0.001).

The correlation between hematologic indices and the duration of contact with harmful industrial factors in the examined men was established (r=0.97–0.99). During the years of professional activity the number of workers with eosinophilia and allergy index increases, the correlation reaches high values (r=0.97–0.99). Increase in the number of eosinophilic granulocytes and gradual increase in their clinical frequency confirms the

Table 2

The frequency of deviations of hematological parameters in workers (%)

Таблица 2

Частота отклонений гематологических показателей у работников (%)

Направление отклонения показателей / Deflection direction indicators	**Электрогазосварщики (ср. общий стаж 47,75±0,59 / Electric and gas welders (average seniority 47,75±0,59) n=225**
Гемоглобин >160 г/л / Hemoglobin >l60 g/l	23,56
Эритроциты >5,5×10^{12}/л / Erythrocytes 10^{12}/l	16,00
Гематокрит >48% / Hematocrit >48%	23,11
MCV >95 фл	19,11
MCH >31 фл	27,56
Лейкоциты >9,0×10^9/л / Leukocytes >9,0×10^9/l	18,22
Эозинофилы >5% / Eosinophils >5%	54,22
Тромбоциты >320×10^9/л / Platelets >320×10^9/л	8,44
Индекс аллергизации >1,2 у.е. / Allergicization index >1,2 c.u.	69,33

allergizing effect of chemicals which are common in the working area of electric and gas welders. These chemicals provokes serious sensitization and possible autoimmune processes as well as clinical forms of pathologies. The increased index of allergy in workers also proves this fact. According to the results of biochemical studies of blood serum in electric and gas welders, the violation of carbohydrate and lipid metabolism was revealed depending on the length of service (Table 4).

Elevated glucose levels are observed among the workers with increasing length of service — from 4.00% at the beginning of work to 30.00% with more than 30 years of service. A high degree of functional relationship of this index with length of service was found (r=1.00). The number of workers with elevated cholesterol correlated with years of professional activity, the correlation reaches r=0.98. The detected disorders of lipid metabolism in the examined workers, most likely, are a consequence of chemical factor exposure, correspondingly, it has a significant impact on the development of atherogenic processes in electric and gas welders. According to some literature data, changes in biochemical parameters under exposure to harmful chemicals can be associated with increasing length of service [5–8, 16]. Increased parameters of carbohydrate and lipid metabolism in the examined workers can be considered as specific changes developing under the influence of harmful factors of production.

CONCLUSION

Thus, it has been established air pollution by chemical substances of the 1st–4th hazard classes is a harmful factor of the working environment and labor process in the work of an electric and gas welder.

The revealed shifts in the blood profile should be considered as an individual response to harmful external exposure. Processes occurring in the red sprout of hematopoiesis are directly related to the duration of exposure to production factors.

It is necessary to conduct dispensary observation of this category of workers with the

Table 3

The frequency of deviations of hematological parameters in workers depending on the length of service

Таблица 3

Частота отклонений гематологических показателей у работников в зависимости от стажа работы (%)

Направление отклонения показателей / Deflection direction indicators	**Электрогазосварщики / Electric and gas welders (n=225)**			
	0–10 лет / 0–10 years (n=25)	**11–20 лет / 11–20 years (n=67)**	**21–30 лет / 21–30 years (n=73)**	**более 30 лет / over 30 years (n=60)**
Гемоглобин >160 г/л / Hemoglobin >l60 g/l	20,00	28,36	26,05	16,67
Эритроциты >5,5×10^{12}/л / Erythrocytes >5,5×10^{12}/l	16,00	20,90	13,70	13,33
Гематокрит >48% / Hematocrit >48%	16,00	28,36	23,29	20,00
MCV >95 фл	4,00	14,93	23,29	25,00** χ^2=5,09 (p <0,001)
MCH >31 фл	4,00	22,39	34,25	35,00** χ^2=8,84 (p <0,001)
Лейкоциты >9,0×10^9/л / Leukocytes >9,0×10^9/l	8,00	22,39	17,81	18,33
Эозинофилы >5% / Eosinophils >5%	52,00	46,27	56,16	58,33
Тромбоциты >320×10^9/л / Platelets >320×10^9/л	4,00	8,96	6,85	10,00
Индекс аллергизации >1,2 у.е. / Allergicization index >1,2 c.u.	68,00	67,16	72,60	50,00* χ^2 = 2,31 (p <0,05)

* Достоверность различий с первым годом работы (p <0,05) / Significance of differences from the first year of operation (p <0,05).
** Достоверность различий с первым годом работы (p <0,001) / Significance of differences from the first year of operation (p <0,001).

Table 4

The frequency of deviations of biochemical parameters in electric and gas welders, depending on the length of service (%)

Таблица 4

Частота отклонений биохимических показателей у электрогазосварщиков в зависимости от стажа работы (%)

Направление отклонения показателей / Deflection directionin dicators	Электрогазосварщики / Electric and gas welders (n=225)			
	стаж 0–10 лет / experience 0–10 years (n=25)	стаж 11–20 лет / experience 11–20 years (n=67)	стаж 21–30 лет / experience 21–30 years (n=73)	Стаж более 30 лет / Experience over 30 years (n=60)
Глюкоза >6,1 ммоль/л / Glucose >6,1 ммоль/л	4,00	22,39	26,03	30,00* χ^2=6,87 (p <0,001)
Холестерин >5,2 ммоль/л / Cholesterol >5,2 ммоль/л	32,00	50,75	57,53	65,00* χ^2=7,77 (p <0,001)

* Достоверность различий с первым годом работы (p <0,001) / Significance of differences from the first year of operation (p <0,001).

development and justification of individual medical and preventive measures.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisi-tion, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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SKIN DISEASES IN THE CONTEXT OF SUPERSTITIOUS IDEAS IN RUSSIAN FOLK MEDICINE

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ABSTRACT. Superstitions concerning health have existed among the people for centuries: unknown about the real causes of ailments, people found many supernatural explanations of them. The article examines the specifics of superstitious ideas — customs, omens, beliefs about the causes of skin diseases in the adult and child population, as well as their influence on the methods of treatment in Russian everyday life. Despite the fact that superstitious methods of treatment occupied one of the first places in the treatment of various skin diseases, only fragmentary data are found in the literature regarding this issue. The authors tried to systematize information on this topic. With this purpose the works of domestic authors — researchers of Russian national routine medicine, as well as a number of historical, ethnographic and folklore materials have been studied. Skin diseases, known from ancient times, were quite common among people of all ages and classes, and the area of the mysterious origin of skin diseases was extremely large and diverse. Russian folk routine medicine included a number of rational means and various magical techniques. The article provides examples of popular views on the causes and origin of skin diseases being of particular interest, since they also explain peculiar ways of popular self-healing. Among the causes of skin diseases on the one hand, the impact of adverse external factors was recognized, on the other hand evil spirits were present. Superstition is unusually tenacious: in the worldview of modern people, despite the achievements of evidence-based medicine, superstitions and signs regarding health persist. In dermatological practice, this is probably facilitated by the variety of skin diseases, the duration of most of them, polymorphism of rashes, localization in visible areas of the skin, and the difficulties of providing effective therapy. According to doctors' observations, such methods of treating skin diseases remain popular among the population at present.

KEY WORDS: superstition; skin diseases; Russian folk routine medicine; ideas about the causes of skin diseases in Russian life; healing techniques.

ЗАБОЛЕВАНИЯ КОЖИ В КОНТЕКСТЕ СУЕВЕРНЫХ ПРЕДСТАВЛЕНИЙ В РУССКОЙ НАРОДНО-БЫТОВОЙ МЕДИЦИНЕ

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РЕЗЮМЕ. Суеверия относительно здоровья бытовали в народе на протяжении веков: не понимая реальных причин недомоганий, люди находили им множество сверхъестественных объяснений. В статье рассматривается специфика суеверных представлений — обычаев, примет, поверий — о причинах заболеваний кожи у взрослого и детского населения, а также их влияние на способы лечения в русском народном быту. Несмотря на то что суеверные способы лечения занимали одно из первых мест в лечении различных кожных болезней, относительно данного вопроса в литературе встречаются только отрывочные данные. Авторами сделана попытка систематизировать сведения по этой теме. Для реализации цели исследования были изучены труды отечественных авторов-исследователей русской народно-бытовой медицины, а также ряд историко-этнографических и фольклорных материалов. Кожные заболевания, известные с древнейших времен, были довольно частым явлением среди всех возрастов и сословий, а область таинственного в деле происхождения кожных болезней была чрезвычайно велика и разнообразна. Русская народно-бытовая медицина состояла из рациональных средств и различных магических приемов. В статье приводятся примеры бытовавших в народе взглядов на причины и происхождение кожных болезней, представляющих особый интерес, т.к. они объясняют и своеобразные способы народного самоврачевания. В числе причин кожных болезней признавалось, с одной стороны, воздействие неблагоприятных внешних факторов, с другой — злых духов. Суеверия необычайно живучи: в мировоззрении современных людей, несмотря на достижения доказательной медицины, стойко сохраняются суеверия и приметы относительно здоровья. В дерматологической практике этому, вероятно, способствуют разнообразие кожных заболеваний, длительность течения большинства из них, полиморфизм высыпаний, локализация на видимых участках кожного покрова, трудности терапии. По наблюдениям врачей, подобные методы лечения кожных заболеваний остаются популярными среди населения и в настоящее время.

КЛЮЧЕВЫЕ СЛОВА: суеверия; кожные болезни; русская народно-бытовая медицина; представления о причинах кожных болезней в русском быту; приемы врачевания.

The historian and ethnographer of the XIX century, an expert of Russian folk life M.M. Zabylin, the author of the work “Russian people: their customs, rituals, traditions, superstitions and poetry”, published in 1880, wrote: “To what could be attributed that not only in Russia, but also in the whole Europe there are so many superstitious distorted notions and beliefs? It seems that they could be destroyed, but, unfortunately, they one generation passes them to another from century to century, with all their trifles, rituals, attributing often to absolutely insignificant things incomprehensible miracles” [13].

And further he argues that such a “stupid belief” is not only common among commoners or people who have not received any education

and inherited such concepts from their fathers and grandfathers, but "why people more developed, even educated people are not strangers to different prejudices? This is a problem that is not easy to solve" [13]. These words sound relevant today. Belief in superstitions and omens has not become less in the XXI century.

Since superstitions are inherent in people regardless of their education, age, social status, it suggests that they simplify and stabilise the image of the constantly changing social world, make it more understandable and predictable [11].

In the case of health care, superstitions and omens occupy a significant place in the lives of both patients (ordinary people) and medical workers, which is confirmed by a number of studies [15, 29].

In Latin, the word "superstitio" ("superstition") means "survivor", "remnant", so superstition is most often called the remnants of ancient pagan beliefs and rituals. Every superstition is a prejudice, but not every prejudice is a superstition. To become a superstition, it should proceed from the belief in the existence of supernatural forces, from the recognition of the usefulness of human witchcraft in attempts to influence nature, health, omens of the future [28]. The great connoisseur of the Russian language V.I. Dahl (1801–1872) called superstition (from the Old Slavonic word "sue" or "vzue" — "in vain") "An erroneous, empty, nonsense, false belief in something; belief in the miraculous, supernatural, in sorcery, fortune-telling, in omens; belief in cause and effect, where no causal relationship is seen" [6].

The explanatory dictionary of the Russian language edited by D.N. Ushakov contains the following definition of the term "superstition": "Religious prejudice, representing phenomena and events in life as a manifestation of miraculous supernatural forces and omens of the future. Superstition arose on the basis of primitive, vestigial ideas about the forces of nature. Belief in omens is one of the characteristic manifestations of superstition" [26].

The purpose of this article is to reveal the specifics of superstitious ideas (customs, omens, beliefs) about the causes of skin diseases in adults and children, as well as their influence on the methods of treatment in Russian folk life. The basis of this work was the study of the works of Russian authors — researchers of Russian folk medicine in the context of the peculiarities of the functioning of culture in traditional society [3, 4, 9, 15, 18, 20, 25], as well as the analysis of historical-ethnographic and folklore materials containing information about the ancient beliefs of the Russian people in various diseases [7, 8, 14, 21].

Superstition is a folk belief that has its historical and psychological basis. The source or prerequisite for the emergence of superstition is considered to be mythological thinking with its own respect for the traditions of ancestors. Some features of archaic beliefs persistently break through into life and persist even nowadays.

All superstitions, regardless of the form in which they manifest themselves, are united by one common feature — they assert the existence of beyond, supernatural forces, on which, as if dependent on human life. According to the source of origin superstitions were often associated with a random coincidence of time and place of events, in fact, have no apparent connection between themselves. Superstitions and folk beliefs are inseparable from magic and magical knowledge. In magical world-understanding all visible nature was perceived as an arena of action of living forces, spirits and essences. The borders between external-material reality and internal-spiritual worlds were considered permeable [3]. Superstitious omen is a child of fear. People, constantly feeling themselves under the threat of danger, the source of which they did not know, anxiously searched for at least the slightest sign that allowed them to foresee, and, perhaps, to prevent bad influence.

Omen, customs and beliefs affected all manifestations of folk life. Superstitions played a special role in people's desire to find happiness, riches, various earthly goods, to get rid of diseases.

Superstitions about health have also existed throughout the centuries: people, without understanding the real causes of ailments, found many supernatural explanations for them. For the traditional, pagan view on the nature of diseases and methods of their treatment were of great importance various kinds of omens, guided by which people sought to avoid misfortune or, at least, psychologically prepare for it [9]. And these omens, despite the centuries separating them, are extremely similar in logic of construction and even in general stylistics. For comparison we can refer to the work of G.I. Popov (1856–1909), which explores folk medicine based on the materials of the ethnographic bureau of Duke

V.N. Tenishev [1]. Among the omens that were considered bad signs for a sick person are the cawing of crows and the untimely singing of a rooster. According to G.I. Popov, omens, prognostics of folk medicine "only in a small number of cases are based on physical and physiological signs and almost all the weight lies on purely superstitious bases" [21].

An extremely large role in the origin of certain diseases was attributed to witchcraft, spoilage, sorcery, demon possession, etc. The study of old Russian folk medicine narratives has been carried out. A large number of works are devoted to the study of ancient beliefs of the Russian people in various diseases. There were many different omens concerning the growth and development of children in Russia. Authors who researched Russian folk medicine (V.F. Demich, G.I. Popov, L.F. Zmeyev, etc.) described many prejudices, superstitions and sometimes completely wild rites related to the care of children, their diseases and treatment. An outstanding researcher of Russian folk medicine doctor V.F. Demich (1858–1930) noted: "In no area of folk life superstition is not manifested with such force as in the treatment and education of children" [7]. A special role in Russian folk life was given to superstition in the issues of the origin of skin diseases in children and adults, and the cycle of superstitious means and methods of treatment occupied one of the first places.

The views of folk medicine on the causes and origin of skin diseases are of special interest, as they explain the peculiar ways of folk self-healing. Skin diseases, known since ancient times, were quite common among all ages and classes. Their high prevalence in the peasant environment was explained by the crowding of people in the huts, the need to keep livestock there, the impossibility of maintaining cleanliness. Some skin diseases were also influenced by climatic conditions: constant wearing of clothes in cold, damp and unsanitary conditions increased the probability of fungal infection, various dermatitis and scabies. The same reasons contributed to the development of skin diseases in children, exematisation of skin processes under inappropriate housing and infrequent bathing [7, 18]. However, folk ideas about the origin of diseases had echoes of superstition, misconceptions, and unscientific interpretations inherited from the middle ages [27]. All diseases were divided into those originating from natural causes and incomprehensible, supernatural ones. Among the causes of skin diseases was recognised, on the one hand, the impact of unfavourable external factors, on the other — evil spirits [5, 28].

It was popularly believed that a skin disease could be acquired through the transmission of it by someone else, through "planting" and "transfer" (e.g., warts). It should be noted here that "transfer" of the disease played a double role in peasant life: both as one of the causes of skin diseases and as a way of getting rid of them. This transfer also took place through some incantations, which were thrown on the road or through clothes taken off the sick person and left somewhere. In all these cases, the disease passes to the one who picks up or takes these objects. Guided by such considerations, in case of various rashes the child's underwear was tied with a belt, taken to the crossroads and left there, being quite sure that whoever picks it up, on him "the disease is applied" [21]. This is connected with superstitious ideas about crossroads as a kind of border of the outer and otherworld, a place of accumulation of energy. That is why peasants were afraid to lift any thing on the boundary line or at the crossroads. The one who picked it up had to take it back to its original place and there spit three times on the side. The basis of this belief is undoubtedly the fact of spreading (transferring) of some diseases (rashes) of infectious character through things that were in contact with a sick person. So, in those cases, when they wanted to transfer warts to others, they cut out on a stick, according to the number of warts, scars and threw at the crossroads, without talking to anyone and without looking back: who will pick it up, the warts will be transferred to him, or sometimes for this purpose they threw a cut and tied in a rag wart. To cure scabies, they took a piece of cloth, rubbed it on the sore spot and threw it on the big road: whoever picks it up first, the disease will pass to him [25].

Belief in the evil eye has been one of the most widespread types of superstition for several millennia, with rituals associated with ridding and protecting against the evil eye persisting to this day in almost unchanged form. Fear of the evil

[1] "The Ethnographic Bureau" was created by Duke V.N. Tenishev in 1897 with the aim of studying the life and everyday life of the Great Russian population in the most complete way possible and collecting information on the Russian peasantry. As a result of three years of work (1898–1900), the richest material was collected, containing descriptions of Russian traditional culture in 23 provinces of European Russia in the second half of the 19th century.

eye is the most widespread irrational type of fear in Russia, consisting in the fact that a person fears another person, his "evil" eye, which mystically can cause harm [10]. The people believed that skin diseases, especially in children, could be obtained from the evil eye, the concept of which included "notions of unexplained danger that could come from contact with another person: conversation, speeches (stipulation, verdict, lesson), touch, breathing, glance (evil eye)". In this sense, they were especially afraid of "strangers", people with physical abnormalities: crooked, blind, one-legged and one-armed, lame, mute; people with a certain colour of hair and eyes (usually black); violators of marriage norms, for example, those who had been married two or three times. A variant of the evil eye — "ozev" — was inflicted with an evil eye on those children who yawned and did not cross their mouths; the lesson could come from envious praise. As a result of the evil eye a child could have any childhood disease, including red spots and rashes [22].

Another cause of skin diseases was the idea that a person got sick because he or she stepped over "uncleanness" — a place in the street or yard where ordinary people emptied their bladders [16].

The emergence of diseases was also associated with "the impact on man of mythological characters as punishment for the violation of prohibitions governing the relationship between them and man": in essence, mythological personifications of various diseases [3]. Human illnesses penetrated into the house or human body from the outside, unexpectedly. They as a living, hostile creature temporarily settled in the human body and could be transferred from it to others. In folk tradition, demons causing various diseases, most often represented in anthropo-morphic form: in the guise of an ugly bony woman, often emaciated, maimed or ugly girl with fiery eyes and bared teeth, usually with loose hair, barefoot, wrapped in some cloth, less often in a male or indeterminate form (someone) [3, 23]. People believed in a "messenger" demon who could take the form of some animal or bird and, appearing suddenly in front of the victim, produce one or another disease, including skin disease. In the superstitious imagination the simplest cases were able to create a confidence in the inevitability of some disease [21].

Demons could also be represented by natural phenomena: fog, clouds, mist, air. Thus, in a number of places there was a belief that a cloud flying low enough above the ground caused diseases in the space it occupied in its flight. To avoid this, the people decided to place guards on high mounds, so that the guards, seeing the cloud, would let all the inhabitants know about it and they could hide [8, 23].

The study of folk-medical symbolism associated with various natural objects (fire, water, earth, moon, trees, animals) allows us to clarify the traditional ideas about diseases [17]. According to some explanations, the direct causes of disease were seen in the impact of wind jets, air currents. In the aspect of experiential knowledge, the symbolism of wind may indicate the observation of the influence of atmospheric changes on bodily states. It can be assumed that the results of systematic observations of the reactions of the organism during the change of seasons were recorded in omens. The people held the belief that the wind brings the spoilage, and from its influence in a person can get diseases. Thus, the wind as a causative agent of disease was attributed to the appearance of colds on the lips — "vetrenitsa" (*herpeslabialis*), and it was called "kiss of fever" [3]. It was believed that various rashes, especially in children, according to popular beliefs, "tied to the wind" [21]. According to other data, one could get a disease by tying a handkerchief torn off by a whirlwind. Such an attribute of illnesses as wings belonged to the symbolism of air movements. Apparently, the beliefs that the first swallows could bring illness were connected with this. In mythological thinking, the wind could play the role of retribution for human violations of the world system [3].

According to popular beliefs, a number of different skin diseases are associated with fire. Thus, it was believed that one of the causes of "flying fire" (herpeslabialis) and other skin diseases was disrespectful attitude to fire, which, according to popular beliefs, was of divine origin — from the sword of Archangel Michael. Such rashes could appear in a child who violated the prohibition not to spit in the fire. It was said: "You can't spit in the fire — a bubble on your tongue will pop up or you'll get sick with volatility". Perhaps, the connection of skin diseases with fire was also based on the similarity of signs and symptoms of burns and skin lesions caused by some diseases.

The cause of skin diseases, especially scabies or other itchy rashes, in folk-medical beliefs was often an animal. Thus, it was believed that diseases could appear in a person if he stepped on scratching strips of the ground by the paws of a

dog or a wolf. Among the examples of skin diseases associated with the image of the wolf is the well-known autoimmune disease systemic lupus erythematosus (SLE). The term *Lupuseryt hematosus* (lupus) comes from the Latin word *"lupus"* (wolf). It is a disease characterised by a butterfly-like rash on the face. According to the first doctors who described the disease, the external manifestations of the disease, circles with pale skin, resembled a wolf bite. Hence the name. "Wolf terminology" has been used since the medieval period to refer to various skin lesions characterised by deep wounds resembling bite marks. Another idea about the origin of the term is related to the superstitions of the middle ages — this is the fear-inspiring idea of magical reincarnation of some people into animals, lycanthropy (according to medieval folklore, some people had the ability to turn into a wolf, in other words, were werewolves). In a number of interpretations it was believed that animals acting as symbols of fire (dog, wolf, eagle) could punish people by afflicting them with skin diseases [24]. Perhaps, these mythological beliefs formed the basis of beliefs according to which the skin of a person who stepped on the place where an angry wolf or dog tore the ground with its claws could be affected by itchy rashes, boils and ulcers [2, 7, 24].

In other cases, the patient himself was the culprit of the disease: the appearance of colds on the lips (*herpeslabialis*) originated from "podumu": a person could fall ill by looking at a patient with another rash [21].

Superstition also played a major role in the treatment of skin diseases in children and adults. Superstitious treatment of skin diseases is quite extensive. A sick person was not in a hurry to resort to the help of a healer, so he turned to folk beliefs based on intuition, never ceasing to believe that one could be cured of everything except death. Folk methods of treatment were widespread among various social groups at all times: both in the middle ages and in the traditional culture of the Russian peasantry of the modern times. The reason for this was mainly the lack of medical care and the low educational level of the population, especially in rural areas. Y.A. Chistovich (1820–1885), a famous Russian hygienist, forensic physician and historian of medicine, wrote: "other Russian people, people who were not rich, dark, poorly educated and especially the "common people" were not treated at all and were even afraid of German treatment. Not that they did not get sick and did not need help with illnesses: but they understood medical help in a special way, apart from foreign healers — partly inaccessible for poor people, and partly unfamiliar and therefore strange and inspiring fear instead of trust. Being caught by the disease, simple and dark people sought help in their own environment, sought it from witch doctors and witches, according to tradition, since ancient times engaged in this business" [27].

Russian folk medicine consisted of rational means and various magical methods. And if the use of rational means was based on rich folk experience and centuries-old observations of peasants about the nature around them, then magical methods were based on false ideas about the origin of diseases [4].

An important role in the treatment of skin diseases played the principle of the similarity (the imitative magic), which is based on provoking the desired, based on figurative and symbolic similarity. For this purpose plant bark was often used by analogy with skin, applying the bark or wrapping the affected places with it. Dew was treated by applying strawberries or geranium flowers (red to red). "Koltun"[2] (or gostets), which according to popular beliefs appears as an evil spirit that settled in a person, was treated with a decoction of white mistletoe, believing that it would transfer to its similarly tangled and sticky stems [3, 22]. If someone "offended" it by inept treatment, the guest turned into a dangerous and difficult to cure disease.

Another expression of this principle manifested itself in outlining skin rashes with charcoal in a circle (it is known that the pathological focus on the skin often has a rounded shape), which could also be associated with the superstitious idea of limiting the disease to a circle or a line. According to the principle of similarity, warts were treated with grasses plucked from the root. Or in the hay they looked for a blade of grass cut together with the earth and root, and rubbed warts with this root: as the grass with the root was cut, so the wart with the root would fall out [21]. The principle of similarity also justifies the treatment of skin diseases with fire and burning objects in cases when the picture of skin disease had external signs of burns. Fire treatment was widespread. According to the popular conception, the pure fire (which was extracted by friction or carved from a firebrick) had a cleansing and healing power, so to

[2] Koltun — an inflammation of the sebaceous glands on the head, resulting from poor hygiene, lack of combing, lice.

cleanse the body from rashes, sparks were carved over the affected areas, the firebrick was beaten in front of the patient's face so that sparks flew on it. In some places a sick child with a wet rash, called "ogonnik" (an eczema), had a broom applied to his face. Fire was also used to treat the so-called "flying fire" (herpetic rashes on the face). In a number of localities, when treating various rashes in children, the magic symbolism of the ring finger was used, which, having no name, according to folk beliefs had special properties and was connected with the otherworld. To cure a child, they said: "This finger has no name, and this baby has no pain, fire. Fire, take your fire, leave my child clean and healthy". In some cases, fire was also used to treat the face, as if "burning" it out. For this purpose they took a handful of zamashka, plucked a few fibres and, with the pronunciation of a special kind of incantation, lit it over the place affected by the rye. Perhaps, these methods of healing were also connected with the ancient pagan veneration of fire [1, 2, 12, 23, 28].

In the treatment of various diseases, particularly skin diseases, methods of partial magic were used, which implied the transfer of properties of the whole to its parts. Such actions were expressed by the introduction of substitute objects into the ritual, which were in contact with the patient and as a part symbolised the whole. The sickness was "measured" with a thread: the sick child's head, torso, arms, legs were measured and this thread (with the child's hair and nails) was put into a hole drilled in the door, the hole was hammered with a peg, after that the sickness, as hidden in the wood of the door, disappeared from the child. It was believed that measuring destroys the disease [5, 12, 22]. In order to destroy the disease altogether (including rashes in children), in some cases they did it in the following way: several hairs were cut off from a sick person, nails were trimmed, a hole was drilled in an aspen tree at the level of the child's height and, having put nails and hair there, a stone was hammered in [3, 21]. The objects-substitutes, acting as carriers of the disease, were also transferred to the sacral natural sphere. For this purpose, the water used to wash a sick person was poured only into certain loci, which were thought to be in contact with the other world. The same thing was done with other objects that were in contact with the sick [3].

The wolf/dog was associated not only with some skin diseases, but also with the methods of their treatment. In Russian folk life, the ritual of getting rid of a disease by transferring it (the method of "translation") to animals was widespread. To do this, sometimes in some rashes smeared affected places with sour cream and gave to lick off the disease to a dog or applied to rashes, boils a piece of bread and threw to the dog with the words: "Take your bread". Another way of treating skin diseases associated with animals was to imitate tying a wart with a thread, after which the used threads were mixed with millet and thrown "...under the henhouse, under the roost. The hens will eat the millet, and the thread will rot there, then the warts will come off". Appeal to chickens in healing incantations and other magical procedures is connected, apparently, with folk ideas about a rooster and a hen as "pure" animals, with the fact that the rooster is able to see the unclean force, to warn about misfortune by its unusual behaviour [21]. Chthonic creatures such as frogs, toads, snakes, lizards were endowed with a special power of influence on the diseases they brought. Significant in the ritual plan, these animals were used in magical methods of curing from ailments. Disease could be transferred through a kiss to a toad, or through spitting into the mouth of a frog. Particles of the sick person's clothes were placed on the toad's back (an invariant of drowning the sick person's clothes). In order to avert the disease from a person, they drank water in which a frog was kept for nine days, drank infusions of frog liver or decoction of a frog in milk [3].

Snake skin had special magical properties. As it could be separated and then preserved, it was attributed a special concentration of vital force, which was used in the treatment of skin diseases. Thus, in some areas the treatment of scabies was reduced to the fact that the patient was washed with water extracted from the skin of a snake, or the skin of this animal was burned [17].

In some cases rashes were treated with earth. For example, in some areas for this purpose rubbed it on a shirt and put it on the patient. Bread and cereals were used for magical purposes. Probably, it was connected with the fact that bread was the most important sacral product of agricultural culture. For example, to get rid of warts it was necessary to rub them with wet millet "for the waning of the month" [5, 22].

Children often had cracked skin on their hands or feet ("the devil rubs the skin") — according to modern ideas, manifestations

of dyshidrosis — in this case it was believed that to get rid of it it was necessary to write three crosses in ink on the sick fingers [25].

The notion of ritual purity of birch trees and their special power led to the idea that birch trees were not afraid of evil forces and diseases: it was believed that touching of the birch branches (washing in a bath with a birch broom) prevented skin diseases [17, 19].

The attitude to moles was ambiguous: in some places they tried to get rid of them and treated them with "skinny saliva" (this saliva taken in the morning, before eating and drinking water) [22]. According to other ideas, the presence of moles was considered a happy sign and was probably connected with folk ideas about spoilage: amulets were considered an artificial distraction of "evil" look, and moles were considered a natural one [19].

One of the methods of protection from various diseases and misfortunes, widely used in Russia and has not lost its popularity in our time, was the method of knitting and wearing special knots — nauzes. The tying was understood, firstly, in the sense of preventing disease and spoilage, and secondly, in the sense of capturing by thread or knot of disease and transferring it to another place. Often such a technique was used to treat children with skin rashes. A widespread method of treatment of warts consisted in the fact that the thread was tied on the number of warts, knots and buried it in the ground, manure or put under the heel of the door: the warts will disappear as soon as the thread rots; often in this case circled the thread around the warts in turn, starting with the largest, and tied knots [21, 25]. The following method was also practised for warts: it was believed that "it was necessary to tie nine times a wart with a harsh thread and throw away these nine knots — the warts will disappear" [25].

Thus, it is obvious that the range of superstitious remedies is extremely diverse. Apparently, there is not a single disease, against which, according to folk beliefs, there would not be in stock one or another superstitious remedy. Superstitious ways occupied one of the first places in the treatment of various skin diseases. Variety of skin diseases, duration of course of the majority of them, polymorphism of rashes, their localisation on visible parts of the skin, difficulties of therapy support vitality of superstitions and in modern dermatological practice. Considering that chronic dermatoses have a great impact on the psychological status of the patient, superstitious beliefs and rituals probably contribute to reducing the intensity of experiences and compensate for the lack of information about the further course of the disease. Even today, dermatologists often meet with such practices when treating patients with skin diseases.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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ARCHITECTURE OF HOSPITALS IN ST. PETERSBURG: FROM PETROVSKY BAROQUE TO HI-TECH. PART I. PETER'S BAROQUE

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ABSTRACT. Saint Petersburg, whose history dates back to a little over 300 years, has embodied many achievements of the human spirit, mind and will. Established according to the plan of Peter the Great, it became the center of the cultural and scientific life of our country. One of the most beautiful cities in the world, thanks to its architectural ensembles, St. Petersburg can serve as a guide to the architectural styles of not only palaces, temples, administrative and industrial buildings, but also medical institutions, in particular hospitals. These objects, distinguished by their diverse architectural styles, constitute the unique cultural and historical heritage of Russia. We are planning series of articles about the hospital architecture of St. Petersburg from a historical perspective: from its construction to the present state. Systematization of the city's hospital institutions according to architectural styles has been developed: Peter's baroque, classicism, eclecticism, neoclassicism, modern, constructivism, Stalinist Ampir style, functionalism, high-tech. The time frame in the description plays a secondary role; they can overlap — this is due to the parallel existence in different periods of several directions of architecture in the city's development. Built in one architectural style, the buildings could have been rebuilt in accordance with a different style in subsequent years; a number of medical institutions were initially located in already constructed buildings that were not intended for hospitals. Presented article is devoted to Peter the Great's baroque style — the first architectural trend of the northern capital, which arose at the beginning of the 18th century, and is associated with Peter the I's affinity for Western European building styles. The city's hospital architecture dates back to the construction of the first hospitals. The history of the creation of the Admiralty (Naval) and Military Land Hospitals on the Vyborg region, and the Kronstadt Naval Hospital is briefly reviewed. The discussion related to the early stage of the "military hospital business" in St. Petersburg is touched upon. An attempt was made to restore the appearance (exterior) of the Admiralty and Military Land Hospitals, based on the "Inventory of the stone and wooden structure of the hospital on the Vyborg side" compiled by D. Trezzini.

KEY WORDS: Saint Petersburg; hospital architecture; Peter's Baroque; Admiralty (Naval) and Military Land Hospitals; Kronstadt Naval Hospital; D. Trezzini.

АРХИТЕКТУРА БОЛЬНИЦ САНКТ-ПЕТЕРБУРГА: ОТ ПЕТРОВСКОГО БАРОККО К ХАЙ-ТЕКУ. ЧАСТЬ I. ПЕТРОВСКОЕ БАРОККО

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РЕЗЮМЕ. Санкт-Петербург, история которого насчитывает немногим более 300 лет, воплотил в себе множество достижений человеческого духа, ума и воли. Возникший по замыслу великого Петра, он стал центром культурной и научной жизни нашей страны. Один из красивейших городов мира — Санкт-Петербург — благодаря своим архитектурным ансамблям может служить путеводителем по архитектурным стилям не только дворцов, храмов, административных и промышленных зданий, но и медицинских учреждений, в частности больниц. Эти объекты, отличающиеся разнообразной архитектурной стилистикой, составляют уникальное культурно-историческое наследие России. Планируется цикл статей, посвященных больничной архитектуре Санкт-Петербурга в историческом ракурсе: от ее истоков до современности. Разработана систематизация больничных учреждений города по архитектурным стилям: петровское барокко, классицизм, эклектика, неоклассицизм, модерн, конструктивизм, сталинский ампир, функционализм, хай-тек. Временны́е рамки в описании играют второстепенную роль, они могут пересекаться — это связано с параллельным существованием в разные периоды нескольких направлений архитектуры в застройке города. Построенные в одном архитектурном стиле, здания в последующие годы могли быть перестроены в другом, целый ряд лечебных заведений первоначально располагался в уже построенных зданиях, не предназначенных для больниц. Представляемая статья посвящена петровскому барокко — первому архитектурному направлению северной столицы, возникшему вначале XVIII века и связанному с расположенностью Петра I к западноевропейской строительной стилистике. Больничная архитектура города берет свое начало со строительства первых госпиталей. Кратко рассмотрена история создания Адмиралтейского (Морского) и Военно-сухопутного госпиталей на Выборгской стороне, Кронштадтского Морского госпиталя. Затронута дискуссия, связанная с ранним этапом «военно-госпитального дела» в Санкт-Петербурге. Предпринята попытка восстановить внешний облик (экстерьер) Адмиралтейского и Военно-сухопутного госпиталей, опираясь на составленную Д. Трезини «Опись каменному и деревянному строению гошпитали, которая на Выборгской стороне».

КЛЮЧЕВЫЕ СЛОВА: Санкт-Петербург; больничная архитектура; петровское барокко; Адмиралтейский (Морской) и Военно-сухопутный госпитали; Кронштадтский Морской госпиталь; Д. Трезини.

St. Petersburg has rightfully gained fame as one of the most beautiful cities in the world, the centre of Russian culture and one of the centres of world culture. It was here that Russian scientific medicine and healthcare were born, and the first medical centres were opened and built. The architecture of the city on the Neva River has been studied quite well. It has absorbed the leading styles and trends developed by architects of different eras. However, the architecture of service, including medical institutions, has been little studied. There are no generalising, exhaustive works on the subject. Meanwhile, these buildings are of great interest to specialists in various fields (historians, doctors, architects, culturologists). This article attempts to systematise St. Petersburg's hospitals of various types by architectural style. Time

frames in the description play a secondary role, they may overlap — this is due to the parallel existence in different periods of several architectural trends in the construction of the city. Buildings constructed in one architectural style could be rebuilt in another style in the following years. It should be noted that a number of medical institutions were initially located in already constructed buildings not intended for hospitals. For example, the building of St Nicholas Hospital was originally built as a Correctional Institution. The building of the St. Mary Magdalene Hospital and the Imperial St. Petersburg Clinical Maternity Institute were mansions, the Elizabethan Community of Sisters of Mercy was a dacha of the count Kushelev-Bezborodko. The first children's hospital in Russia (Nikolayevskaya Children's Hospital), opened in 1834, changed its address twice until it got its own building in 1916. The data on hospitals are shown in Table 1.

PETER THE GREAT BAROQUE

The history of St. Petersburg's hospital architecture begins with the construction of the first infirmaries. The heavy and prolonged Northern War (1700–1721) waged by Peter the Great led to a sharp increase in the number of wounded and sick soldiers and "sea servants". It was necessary to urgently organise medical business in the fortress city "St. Petersburg" founded on 16th May 1703. In 1704 the question about the establishment on the Neva banks of the military hospital was discussed. In 1706 there was already the "Main" naval hospital [13, 22][1]. The war with Sweden continued, the infirmaries placed in adapted wooden buildings of barracks type could not cope with the huge flow of "infirm" soldiers. In addition, the number of townspeople was growing rapidly, and military men constituted the main part of the population along with workers of various specialities and officials. Probably, the first places for medical care for construction teams consisting of soldiers and labourers were small reception rooms in huts, tents, dugouts, hastily made board barracks. And for the military in the location of regiments and commands were organised medical huts [4].

On January 24th, in 1715 Peter I published a decree to build hospitals on the Vyborg side according to the drawing of doctor and archpriest[2] R.K. Erskin (1677–1718) [13, 14, 17, 22, 23]. The project envisaged the construction of a large complex of buildings (Fach-Verkovsky buildings)[3], which united in one place the Admiralty (Naval) and Army hospitals. The compositional centre was to be the hospital church, and at both ends — anatomical theatres for each hospital, where medical students were trained. The emperor entrusted the construction supervision to his favourite architect Domenico Trezzini (1670–1734), who prepared a new project of the hospitals in stone — they would become an example of strict Petrine Baroque (Fig. 1).

Concerned about restoring the fighting capacity and preserving the health of his soldiers and sailors, Peter hastened the construction of stone hospitals. At the beginning of construction of the Admiralty Hospital Peter I gave a brief farewell, where were the following words: "Here every exhausted serviceman will find help and comfort, which he has not had before; God only grant that many never had the need to be brought here" [3].

In December 1723 the eastern half of the building (the Naval Hospital) was finished, here by the decree of the sovereign were transferred sick "naval servants" of the Admiralty Department. Already after Peter I's death, in May 1725, because of the deplorable condition of wooden hospital barracks, located on the Malaya Neva (now Bolshaya Nevka) near the Karpovka River on St. Petersburg Island, here, in the eastern building, were transferred to the "infirm" of the Army Department [17].

The construction of the western wing of the building was slowed down, first of all, due to the lack of funds, only in 1733 the construction of the stone hospital complex was completed

[1] Based on archival documents, researchers have done a lot to restore the history of the first infirmaries in St. Petersburg. But there are still many questions related to the early stage of the "military-hospital business" in the northern capital [1–18, 20–25, 29, 30, 32–34].

[2] Archpriest — chief physician and head of the entire medical system of the state; a position introduced by Peter the Great.

[3] A type of enclosing structure of mainly low-rise buildings, is a frame formed by a system of horizontal and vertical elements and struts made of wooden timber with filling the gaps with stone, brick and other materials.

Table 1

Main architectural styles of hospitals in Saint Petersburg

Таблица 1

Основные архитектурные стили больниц Санкт-Петербурга

Стиль / Type of architectural style	**Временны́е границы / Time period**	**Особенности архитектуры / Architecture Features**	**Ведущие архитекторы / Leading architects**	**Больницы / Hospitals**
Петровское барокко / Peter's Baroque	С момента основания города до конца 1730-х гг. / From the foundation of the city until the end of the 1730s	Рациональность и сдержанность, простота объемов (в плане прямоугольник); высокая на голландский манер крыша; пилястры; мелкая расстекловка окон; рустовка углов; преобладание ярких цветов при покраске штукатурки стен / Rationality and restraint, simplicity of volumes (rectangular in plan); high Dutch-style roof; pilasters; small glazing of windows; rustication of corners; the predominance of bright colors when painting plaster walls	Д. Трезини, М.Г. Земцов, П. Трезини, И.К. Коробов / D. Trezzini, M.G. Zemtsov, P. Trezzini, I.K. Korobov	Адмиралтейский (Морской) и Военно-сухопутный госпитали / Admiralty (Naval) and Military Land Hospitals. Кронштадтский Морской госпиталь / Kronstadt Marine Hospital
Классицизм / Classicism	Вторая половина XVIII века — 30–40-е гг. XIX века / Second half of the 18th century — 30–40s 19th century	Симметрично-осевые композиции; полное господство ордерной системы, в пропорциях и формах близкой к античности; мощные колонные портики; треугольные фронтоны; сдержанное оформление окон и дверей; светло-желтые и белые тона в отделке фасадов / Symmetrical-axial compositions; complete dominance of the order system, in proportions and forms close to antiquity; powerful columned porticoes; triangular gables; discreet design of windows and doors; light yellow and white tones in the decoration of facades	В.И. Баженов, А.Н. Воронихин, Дж. Кваренги, Д. Квадри, Н.А. Львов, А. Порто, Л. Руска, Л.И. Шарлемань, А.Е. Штауберг / V.I. Bazhenov, A.N. Voronikhin, G. Quarenghi, D. Quadri, N.A. Lvov, A. Porto, L. Rusca, L.I. Charlemagne, A.E. Stauberg	Калинкинская городская больница / Kalinkinsk City Hospital. Обуховская больница / Obukhovskaya hospital. Мариинская больница / Mariinsky Hospital. Императорская Медико-Хирургическая Академия. Главный корпус / Imperial Medical-Surgical Academy. Main building. Больница Святой Марии Магдалины (для взрослых) / St Mary Magdalene Hospital (for adults). Петропавловская больница / Peter and Paul Hospital. Больница для душевнобольных Святого Николая Чудотворца / Hospital for the mentally ill St. Nicholas the Wonderworker. Елизаветинская община сестер милосердия / Elizabethian Community of Sisters of Mercy
Эклектика / Eclecticism	30–90e гг. XIX века / 30–90s 19th century	Художественное направление в архитектуре, ориентированное на сочетание в одном сооружении различных стилей прошлого или произвольный выбор стилистического оформления зданий / An artistic movement in architecture focused on combining different styles of the past in one building or an arbitrary choice of stylistic design of buildings	Л.Н. Бенуа, А.К. Гаммерштедт, Е.С. Воротилов, Ц.А. Кавос, И.С. Китнер, В.Р. Курзанов, А.Х. Пель, А.Ф. Пель, Л.В. Шмеллинг / L.N. Benois, A.K. Hammerstedt, E.S. Vorotilov, Ts.A. Kavos, I.S. Kitner, V.R. Kurzanov, A.H. Pel, A.F. Pel, L.V. Schmelling	Лечебница Святого Лазаря (Максимилиановская больница) / Hospital of St. Lazarus (Maximilian Hospital). Детская больница принца Ольденбургского / Prince's Oldenburgsky Children's Hospital. Свято-Троицкая община сестер милосердия / Holy Trinity Community of Sisters of Mercy. Императорский Санкт-Петербургский клинический повивальный институт / Imperial St. Petersburg Clinical Midwifery Institute. Клиника кожных болезней им. В.К. Синягина и А.К. Чекалевой / Clinic of Skin Diseases named after V.K. Sinyagin and A.K. Chekaleva. Еленинская женская раковая больница им. А.Г. и Е.И. Елисеевых / Eleninskaya Women's Cancer Hospital named after A.G. and E.I. Eliseevs

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Продолжение табл. 1 / Continuation of the table 1

Стиль / Type of architectural style		Временны́е границы / Time period	Особенности архитектуры / Architecture Features	Ведущие архитекторы / Leading architects	Больницы / Hospitals
Направления эклектики / Eclectic trends	Неоготика / Neo-Gothic	30–40-е гг. XIX века — начало XX века / 30–40s 19th century — early 20th century	Вытянутые вверх конструкции; остроконечные своды и крыши; высокие шпили; стрельчатые окна и арки; обилие башенок / Elongated structures; pointed vaults and roofs; tall spiers; lancet windows and arches; abundance of turrets	Р.Б. Бернгард, фон О.Г. Гиппиус / R.B. Bernhard, von O.G. Gippius	Евангелическая женская больница / Evangelical Women's Hospital. Больница для душевнобольных (Готический дом) / Hospital for the Mentally Ill (Gothic House)
	Неорусский / Neo-Russian	30-е гг. XIX века — начало XX века / 30s 19th century — early 20th century	Использование мотивов средневекового русского зодчества; яркая декоративность / The use of motifs of medieval Russian architecture; bright decorative	Ю.Ю. Бенуа / Y.Y. Benua	Крестовоздвиженская община сестер милосердия / Holy Cross Community of Sisters of Mercy
	Необарокко / Neo-Baroque	Середина XIX века — начало XX века / Mid 19th century — early 20th century	Подчеркнутые пышность и богатство фасадов за счет лепнины пилястр, колонн и вензелей / The splendor and richness of the facades are emphasized by the stucco molding of pilasters, columns and monograms	Л.А. Ильин, А.И. Клейн, А.В. Розенберг / L.A. Ilyin, A.I. Klein, A.V. Rosenberg	Городская больница им. Петра Великого / City Hospital named after Peter the Great
	Неоренессанс / Neo-Renaissance	Вторая половина XIX века — начало XX века / Second half of the 19th century — beginning of the 20th century	Воспроизведение архитектурных решений эпохи Возрождения; строгая симметрия; рациональное членение фасадов, рустика, пилястры; венецианские или брамантовы окна / Reproduction of architectural solutions of the Renaissance; strict symmetry; rational division of facades, rustication, pilasters; venetian or brass windows	Р.А. Гедике, П.Ю. Сюзор / R.A. Goedicke, P. Yu. Suzor	Елизаветинская клиническая больница для малолетних детей / Elizavetinskaya Clinical Hospital for Children. Дом французского благотворительного общества с больницей / House of the French charitable society with hospital
	Кирпичный / Brick	Середина XIX века — начало XX века / Mid 19th century — early 20th century	Отсутствие штукатурки и краски на фасадах; кирпичная кладка выполняет декоративное значение / No plaster and paint on the facades; brickwork serves a decorative purpose	Ф.И. Габерцетель, Ф.Ф. Лумберг, А.А. Пашихин, Д.К. Пруссак, В.Я. Симонов, А.И. Томишко / F.I. Haberzetel, F.F. Lumberg, A.A. Pashikhin, D.K. Prussak, V.Y. Simonov, A.I. Tomishko	Волковская купеческая богадельня / Volkovskaya merchant almshouse. Евгениевская община сестер милосердия / Evgeniyevskaya community of sisters of mercy. Больница Обуховского завода / Obukhov Plant Hospital. Лазарет Охтинского порохового завода / Infirmaryofthe Okhtinsky Powder Plant
Неоклассицизм / Neoclassicism		Последняя треть XIX века — первая четверть XX века / Last third of the 19th century — first quarter of the 20th century	Ретроспективные проекты в стиле классицизма; ордерная система; классические пропорции; сдержанность декоративного убранства; мягкие умеренные тона (светло-желтый, белый, голубой) / Retrospective projects in the style of classicism; order system; classic proportions; restraint of decorative decoration; soft moderate tones (light yellow, white, blue)	К.Ф. Альтман, А.М. Вишняков, А.Г. Голубков, П.Ю. Сюзор, И.И. Яковлев / K.F. Altman, A.M. Vishnyakov, A.G. Golubkov, P.Y. Suzor, I.I. Yakovlev	Больница в память императора Александра II благотворительного общества последователей гомеопатии / Hospital in memory of Emperor Alexander II, charitable society of followers of homeopathy. Лечебница А.Я. Фрея — Лечебница А.Э. Барии / Hospital A.Ya. Freya — Hospital A.E. Barii. Акушерско-гинекологическая клиника баронета Виллие, Военно-медицинская академия / Baronet Willie Obstetrics and Gynecology Clinic, Military Medical Academy. Императорская Николаевская детская больница / Imperial Nikolaev Children's Hospital

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Продолжение табл. 1 / Continuation of the table 1

Стиль / Type of architectural style	**Временны́е границы / Time period**	**Особенности архитектуры / Architecture Features**	**Ведущие архитекторы / Leading architects**	**Больницы / Hospitals**
Модерн / Modern	90-е гг. XIX века — первое десятилетие XX века / 90s XIX century — first decade of the XX century	Асимметрия, свободная планировка, отвечающая функциям здания; обилие причудливо изогнутых линий, лианообразные извивы и переплетения; мозаика, майолика, витражи / Asymmetry, free layout, corresponding to the functions of the building; an abundance of intricately curved lines, vine-like twists and weaves; mosaic, majolica, stained glass	В.И. Ван-дер-Гюхт, Г.Е. Гинц, Г.И. Люцедарский, М.И. Китнер, Р.Ф. Мельцер/ V.I. van der Gucht, G.E. Ginz, G.I. Lyutsedarsky M.I. Kitner R.F. Meltzer	Больница Общины сестер милосердия Святого Георгия / Hospital of the Community of Sisters of Charity of St. George. Детская городская больница в память Священного коронования Их Императорских Величеств / Children's City Hospital in memory of the Holy Coronation of Their Imperial Majesties. Ортопедический институт / Orthopedic Institute. Ольгин приют для больных в память Григория / Olgas' shelter for the sick in memory of Gregory
Конструктивизм / Constructivism	20–30-е гг. XX столетия / 20–30s XX century	Простота, лаконичность и геометрическая четкость форм; примат функционального содержания здания над его формой; смелое реформирование пространства / Simplicity, conciseness and geometric clarity of forms; the primacy of the functional content of the building over its form; bold reformation of space	А.И. Гегелло, Д.Л. Кричевский, О.Л. Лялин, Л.В. Руднев, И.И. Фомин / A.I. Hegello, D.L. Krichevsky, O.L. Lyalin, L.V. Rudnev, I.I. Fomin	Больница имени Ф.Ф. Эрисмана (11 корпус) / Hospital named after F.F. Erisman (11th building). Больница имени С.П. Боткина (Административный корпус с приемным покоем, 3 павильона летучих инфекций, хирургический корпус, прозекторская) / Hospital named after S.P. Botkin (Administrative building with emergency room, 3 pavilions for volatile infections, surgical building, autopsy department) Профилакторий Кировского района / Dispensary of Kirovsky district
Сталинский ампир / Stalin Ampir style	Середина 30-х — середина 50-х гг. XX века / Mid 30s — mid 50s XX century	Возвращение к традициям русского классицизма; монументализм и фундаментальность построек; использование архитектурных ордеров; барельефы с геральдическими композициями и изображениями трудящихся / Return to the traditions of Russian classicism; monumentalism and fundamentality of buildings; use of architectural orders; bas-reliefs with heraldic compositions and images of working	Л.Е. Асс, Д.Н. Бурышкин, А.С. Гинцберг, В.Н. Наумычев / L.E. Ass, D.N. Buryshkin, A.S. Ginsberg, V.N. Naumychev	Роддом Кузнецовский Московского района / Kuznetsovsky Maternity Hospital, Moskovsky District. Городские больницы № 9, 20 / City hospitals N 9, 20. Корпус Института онкологии (Городского онкологического диспансера) / Building of the Institute of Oncology (City Oncology Dispensary). Медсанчасть № 19 Ленинградского металлического завода им. XXII Съезда КПСС / Medical unit N 19 of the Leningrad Metal Plant named after XXII Congress of the CPSU (communist party of the soviet union). Корпус Военно-морского госпиталя (Старо-Петергофский проспект, 2) / Naval Hospital building (Staro- Peterhofsky Prospekt, 2)

Окончание табл. 1 / Ending of the table 1

Стиль / Type of architectural style	Временны́е границы / Time period	Особенности архитектуры / Architecture Features	Ведущие архитекторы / Leading architects	Больницы / Hospitals
Функционализм / Functionalism	50-е — конец 80-х гг. XX века / 50s — late 80s XX century	Исключительная утилитарность построек, минимализм в отделке фасадов, широкое использование стекла и бетона, «ленточное» остекление, использование горизонтальных крыш / Exceptional utilitarianism of buildings, minimalism in facade decoration, extensive use of glass and concrete, strip glazing, use of horizontal roofs	А.С. Гольдин, Н.Е. Ефимова, Б.И. Козырев, Э.В. Кондратович, Л.А. Панкратова, Н.Н. Трегубов, В.Г. Филиппов, О.В. Штейнмиллер/ A.S. Goldin, N.E. Efimova, B.I. Kozyrev, E.V. Kondratovich, L.A. Pankratova, N.N. Tregubov, V.G. Filippov, O.V. Steinmiller	Детская городская больница № 1 / City Children's Hospital № 1. Медицинский протезно-ортопедический центр / Medical prosthetic and orthopedic center. Городские больницы № 2, 3, 17, 26 / City hospitals N 2, 3, 17, 26. Ленинградский научно-исследовательский иститут скорой помощи имени профессора И.И. Джанелидзе / Leningrad Research Institute of Emergency Medicine named after Professor I.I. Dzhanelidze. Госпиталь управления внутренних дел Леноблгорисполкомов / Hospital of the Department of Internal Affairs of the Leningrad City Executive Committee. Ленинградская областная клиническая больница / Leningrad Regional Clinical Hospital. МСЧ № 122 / Medical unit № 122
Хай-тек / High-tech	80–90-е гг. XX века — по настоящее время / 80–90s 20th century — present	Применение современных конструкций и высоких технологий; функциональность; преобладание лаконичных форм и простых линий; тотальное застекление фасадов; превалирование серых и стальных тонов / Use of modern designs and high technologies; functionality; the predominance of laconic forms and simple lines; total glazing of facades; the prevalence of gray and steel tones	Л.В. Гуляева, Т.Ю. Душина, Н.Г. Захарова, С.М. Зельцман, Ю.К. Митюрев, Н.А. Смолин, Э.А. Тышерский/ L.V. Gulyaeva, T.Yu. Dushina, N.G. Zakharova, S.M. Zeltsman, Yu.K. Mityurev, N.A. Smolin, E.A. Tyshersky	Всероссийский центр экстренной и радиационной медицины им. А.М. Никифорова МЧС России / All-Russian Center for Emergency and Radiation Medicine named after A.M. Nikiforov EMERCOM of Russia. Федеральный центр сердца, крови и эндокринологии им. В.А. Алмазова / Federal Center of Heart, Blood and Endocrinology named after V.A. Almazov. Федеральный специализированный перинатальный центр / Federal Specialized Perinatal Center. Институт детской гематологии и трансплантологии им. Р.М. Горбачевой / Institute of Pediatric Hematology and Transplantology named after Raisa Gorbacheva

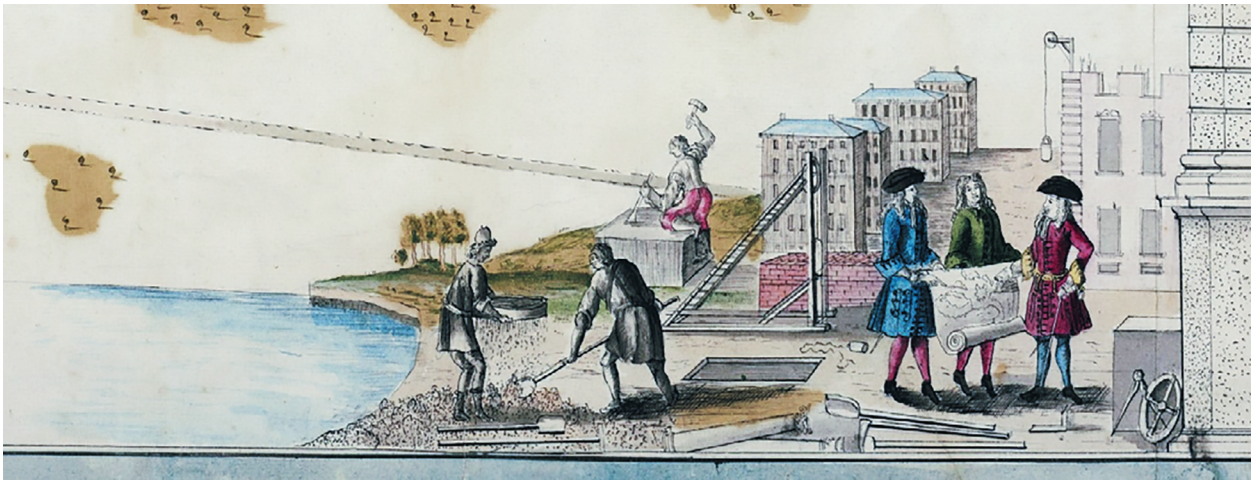

Fig. 1. Topographic plan of Saint Petersburg. Plan K.F. Coieta. N. Michetti, M.G. Zemtsov, D. Trezzini at the construction of a military hospital on the Vyborg side. Drawing on the plan. 1722 [27]

Рис. 1. Топографический план Санкт-Петербурга. План К.Ф. Койета. Н. Микетти, М.Г. Земцов, Д. Трезини на постройке военного госпиталя на Выборгской стороне. Рисунок на плане. 1722 г. [27]

Fig. 2. Facade of the hospital on the Vyborg side. Unknown artist. Drawing (pencil, ink), 1740s. The State Hermitage Museum [31]

Рис. 2. Фасад госпиталя на Выборгской стороне. Рисунок (карандаш, чернила). Неизвестный художник. 1740-е годы. Государственный Эрмитаж [31]

[1][4]. On the right bank of the Neva River grew two-storeyed white long buildings of the Admiralty and Land Hospital (Fig. 2). The pilaster order, the gallery with sharpened balusters and the high roof, painted "red chenille", and on the edges, where the anatomical theatres were located, — wings under eight-corner domes, covered with white iron, with sharpened balusters of the railing, as well as wooden frames of windows, painted in green[5]. The restrained Baroque of Peter the Great took on a smart and festive appearance.

After Domenico Trezzini's death, the completion of his project was entrusted to the architects M.G. Zemtsov (1688–1943) and Pietro Trezzini (1692–1760), later to the architect I.K. Korobov (1700–1747). By the end of the 1730, the side stone buildings were erected, and the hospitals became a U-shaped complex of buildings opened to the north (Fig. 3) [24]. Unfortunately, the construction of the general hospital church, which should have become the centre of the symmetrical composition, was never completed. After repeated rebuildings in the 19th century, the anatomical theatre was located here, later — the library, which is still there today (Fig. 4) [23].

Since 1733 the hospitals became "general" (educational) — hospital schools were opened to train physicians for the needs of the Russian army and navy, in 1786 they were reorganised into medical and surgical schools. In 1798 the

[4] A number of researchers believe that the construction of stone buildings of the Admiralty and Land Hospital was completed in 1732. [20].

[5] The authors attempted to restore the external appearance (exterior) of the Admiralty and Army hospitals, relying on D. Trezzini's "Inventory of the stone and wooden structure of the hospital, which is on the Vyborg side, the first half, in which transferred from the Admiralty Department sick servants", which is stored in the Russian State Historical Archive (RGIA. F. 467. St. Petersburg. 1724. Op. 4. D. 592. L. 9–10) [23].

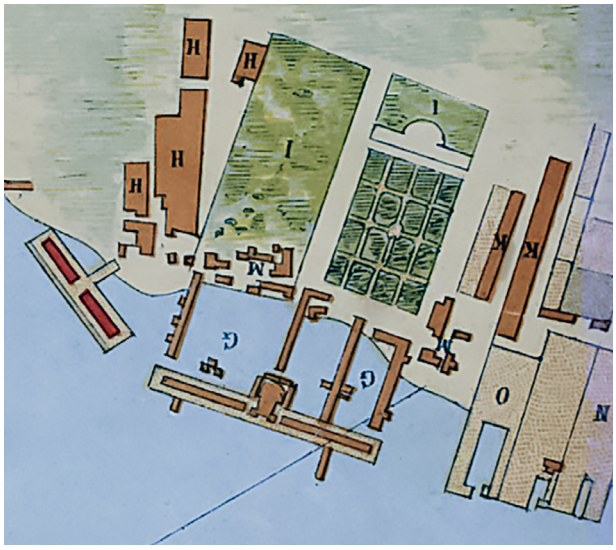

Fig. 3. Plan of the imperial capital city of Saint Petersburg in 1737. A complex of hospitals on the plan of St. Petersburg in 1737 [19]

Рис. 3. План императорского столичного города Санкт-Петербурга 1737 г. Комплекс госпиталей на плане Санкт-Петербурга 1737 г. [19]

Imperial Medical and Surgical Academy was established on their basis, and the hospitals became its clinical base [25].

The process of construction of the Medical and Surgical Academy (now the Kirov Military Medical Academy) has always kept pace with time, many buildings were built in different eras, so it is impossible to attribute the entire architectural ensemble to any particular architectural style — each building, each department should be studied separately (Fig. 4)[6].

Admiralty hospital on Kotlin Island (Kronstadt fortress) was founded in 1717 [23, 26][7]. At first it consisted of small wooden barracks, which were not well adapted for the reception of patients. On 31st July 1721 Peter I issued a decree to move the hospital to stone buildings. Soon the fortress command came to the conclusion that it was inconvenient and dangerous to place the hospital in the centre of the city. A new hospital was built in the north-eastern part of the island, where it is located today. The first patients were accommodated there in 1730. The hospital consisted of three wooden wings on a stone foundation [28]. The wooden buildings of the hospital were often rebuilt due to the frequent fires[8].

The first Peter the Great hospitals were built according to the then widespread enfilade system, which was a series of large passageway wards of 20–30 beds adjoining each other in a row. This layout, because of the intercommunication of all rooms, favoured the spread of infection and was completely unsuitable for medical institutions (Fig. 5) [33]. The first rules for the arrangement and maintenance of hospitals were established by Peter's decrees, then by the 'Regulations on Hospitals' of 1735 [9].

Concluding a brief characteristic of medical institutions built in the architectural style of Petrine Baroque, we should emphasise the dedication of the first architects and builders of St. Petersburg, who in a short time, in the most difficult conditions of the war, lack of funds and resources not only built the first hospitals, where wounded and sick soldiers and sailors were helped, but also laid the foundation for the solemn appearance of the northern 'paradise'. Undoubtedly, the decisive role was played by the mind and will of Peter I, his understanding of the importance of the development of medical science, the training of healers from 'natural Russians', the prosperity of medicine and other sciences in general. A new stage in the development of hospital architecture of the city is associated with the Classicism era, which will be the subject of the next article.

[6] In addition to the architects already named, D. Trezzini, M.G. Zemtsov, P. Trezzini, I.K. Korobov, architects A. Porto, C. Cameron, A.N. Voronikhin, A.D. Zakharov, K.Y. Sokolov, A.H. Pel, military engineer G.S. Voynitsky and others worked on the creation of a rich architectural ensemble of the Kirov Military Medical Academy.

[7] The date of the opening of the Kronstadt hospital, as well as the St Petersburg Naval and Army hospitals, is still a matter of debate.

[8] In the 1830s, the architect E.H. Anert designed a classical-style stone building of three-storey buildings arranged in the form of the letter "N" for the Kronstadt Hospital. On each floor of the central building and side wings there was a wide corridor, on both sides of which there were spacious and bright wards, on the second and third floors there were also operating theatres. The hospital was designed for 2 thousand beds. In the middle of the main building on the first floor there was a church in the name of the Holy Prince Alexander Nevsky. On 6th October 1840 the church was consecrated and the new hospital was inaugurated, which was the last word in the field of infirmary construction of that time. In 1905 at the anatomical theatre near the main building of the hospital architect V.A. Kosyakov built the church of St. Nicholas the Wonderworker in Byzantine style [26, 28]. The Naval Hospital in Kronstadt is now the 35th Order of Lenin Military and Naval Hospital named after N.A. Semashko..

Fig. 4. Clinics of the Military Medical Academy named after S.M. Kirov on Pirogovskaya embankment

Рис. 4. Здание клиник Военно-медицинской академии имени С.М. Кирова на Пироговской набережной

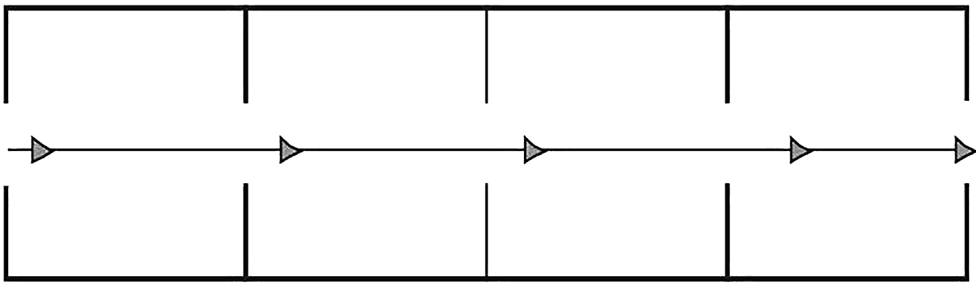

Fig. 5. Enfilade layout of organizing hospitals

Рис. 5. Анфиладная схема планировки больниц

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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TO THE HISTORY OF DOMESTIC DENTISTRY: THE SECOND MOSCOW DENTAL CLINIC

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ABSTRACT. Based on archival materials, this article describes the short history of the 2nd Moscow Dentistry Clinic — a former Moscow dental school of privat-docent G.-Z.I. Vilga, transformed in 1918 by a decision of the People's Commissariat of Health into an educational and auxiliary institution at the odontology department of the medical faculty of Moscow University. Such reorganization of the system of dentistry on the basis of dental schools and in the country as a whole was caused by the reforms proposed by P.G. Dauge, a graduate of the 1st Moscow Dentistry School of Dr. I.M. Kovarsky. The article provides a detailed schedule of the newly formed 2nd Moscow Dental Clinic, which functioned both as an educational institution and as a clinic for treatment dental diseases. It is shown that the schedule additionally includes a new subject — public dentistry, whose teacher, according to the decision of the United Pedagogical Council meeting, was later proposed by K.S. Ginzburg. However, the authors of this article provide ample arguments in favor of the worsening of the quality of education provided by dental schools-clinics after such perturbations in the habitual system: the graduates of the Moscow dental clinics of 1919 could obviously have had great problems with the practical skills in dentistry. Revision of the curriculum and lack of teachers was the reason that by the beginning of September 1919, when it was already time to take the final examinations, most students could not get the planned number of practical classes and thus could not be admitted to pass the final exams. However, by order of the Dentistry subsection of the People's Commissariat for Health, most of the graduates were still allowed to take them. And even for those students who were not able to pass state examinations, the way to dentistry was not closed: by the decision of the board of the Dentistry sub-section in October, 8–10, 1919 they could be permitted to work in dental outpatient clinics as unskilled workers. The authors of the article describe the changes in the educational process in such details that the only conclusion is unequivocal: the quality of the education received was greatly worsening. In addition to the changes in the educational process, the article examines changes in the financing of such newly-formed institutions: if before the revolution training of future dentists in a private dental school was quite expensive, and the dental care provided by teachers with the participation of students brought the schools a small but stable additional income, after the victory of the revolution both training of students and treatment of patients in need of dental care became free of charge. All this affected the basic mechanisms of supplying schools-clinics with the necessary materials for work and training, and added to the paperwork and bureaucracy. This detailed example of the 2nd Moscow Dentist Clinic shows that the attempt to transform the flourishing private dental schools into state dental clinics under conditions of teacher shortage and lack of sufficient funding could not be successful and led only to a reduction in the quality of students' education. The article is written on the basis of archival sources, which are introduced into scientific circulation for the first time.

KEY WORDS: history of dentistry; dental clinic; G.-Z.I. Vilga.

К ИСТОРИИ ОТЕЧЕСТВЕННОЙ СТОМАТОЛОГИИ: ВТОРАЯ МОСКОВСКАЯ ЗУБОВРАЧЕБНАЯ КЛИНИКА

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РЕЗЮМЕ. В статье на основании архивных материалов описана недолгая история 2-й Московской зубоврачебной клиники — бывшей московской зубоврачебной школы приват-доцента Г.-З.И. Вильга, решением Народного комиссариата здравоохранения превращенной в 1918 году в учебно-вспомогательное учреждение при одонтологическом отделении медицинского факультета Московского университета. Причиной подобной реорганизации системы зубоврачевания на базе зубоврачебных школ и в стране в целом стали реформы, предложенные П.Г. Дауге, выпускником 1-й Московской зубоврачебной школы доктора И.М. Коварского. В статье приводится подробное расписание новообразованной 2-й Московской зубоврачебной клиники, которая функционировала и как учебное заведение, и как клиника для лечения зубных болезней. Показано, что в расписание дополнительно вводится новый предмет — общественное зубоврачевание, преподавателем которого, по решению заседания Объединенного педсовета, впоследствии был предложен К.С. Гинзбург. Тем не менее авторы статьи приводят достаточно аргументов в пользу ухудшения качества получаемого образования в зубоврачебных школах-клиниках после таких пертурбаций в привычной системе: с практическими навыками зубоврачевания у выпускников московских зубоврачебных клиник 1919 года явно были большие проблемы. Пересмотр программы обучения и нехватка преподавателей привели к тому, что к началу сентября 1919 года, когда пора было уже сдавать выпускные экзамены, большинство учащихся не смогли пройти запланированное количество практических занятий, таким образом, не могли быть допущены к выпускным экзаменам. Однако, по распоряжению Зубоврачебной подсекции Наркомздрава, большая часть выпускников все же была к ним допущена. И даже для тех учащихся, кто не смог выдержать государственные экзамены, дорога к зубоврачеванию не была закрыта — решением коллегии Зубоврачебной подсекции от 8–10 октября 1919 года их можно было допустить к работе в зубоврачебных амбулаториях в качестве подсобного персонала. Авторы статьи так подробно рассказывают об изменениях в учебном процессе, чтобы можно было однозначно сделать один вывод: качество получаемого образования значительно ухудшалось. Помимо изменений в учебном процессе в статье рассматриваются изменения в финансировании такого рода новообразованных заведений: если до революции обучение будущих зубных врачей в частной зубоврачебной школе стоило довольно дорого, а оказываемая преподавателями при участии обучающихся зубоврачебная помощь населению приносила школам небольшой, но стабильный дополнительный доход, то после победы революции и обучение слушателей, и лечение нуждающихся в зубоврачебном пособии пациентов стали бесплатными. Все это повлияло на основные механизмы снабжения школ-клиник необходимыми материалами для работы и обучения, добавило бумажной волокиты и бюрократии. На таком подробном примере 2-й Московской зубоврачебной клиники показано, что попытка превратить процветающие частные зубоврачебные школы в государственные зубоврачебные клиники в условиях нехватки преподавателей и при отсутствии достаточного финансирования не могла быть успешной и привела лишь к снижению качества получаемого образования учащимися. Статья написана на основе архивных источников, впервые вводимых в научный оборот.

КЛЮЧЕВЫЕ СЛОВА: история стоматологии; зубоврачебная клиника; Г.-З.И. Вильга.

The history of modern Russian dentistry began on 11th July 1918, the day when the Council of People's Commissars decided to establish the People's Commissariat of Health. A week later, the regulations of the People's Commissariat of Health were approved, at which the Medical Section was established and the Dental Sub-Section was included in it. Pavel Georgievich Dauge (1869–1946), a dentist who took an active role in the revolutionary movement, was appointed head of this section on the recommendation of V.I. Lenin.

Dental education in pre-revolutionary Russia could be obtained either by mentoring, which allowed to obtain the title of dentist (the second way of obtaining specialists had been abandoned by that time), or in private dental schools, which produced dentists. A graduate of the 1st Moscow dental school of Dr I.M. Kovarsky, P.G. Dauge was a principal opponent of such school education. "The main reason for the imperfection of dental schools in Russia should be sought in the fact that all without exception dental schools are private educational institutions, not organically connected with the medical faculty and do not have the necessary scientific facilities — physical, chemical, bacteriological laboratories, anatomical theatre, etc." — he said in his keynote address after his appointment as the chief dentist of the country[1].

The plan of the forthcoming reforms P.G. Dauge agreed in advance with V.I. Lenin, and on the 1st of October 1918 the corresponding decree of the People's Commissariat of Health and the People's Commissariat of Education "On the reform of dental education" was published: dental schools were closed, but some, the most successful, were to be used as educational and auxiliary institutions at the newly opened odontological departments of medical faculties of universities. The duration of education at the dental schools was 2.5 years — 5 semesters of half a year each. After the closure of the schools, the students of the 5th and 3rd semesters were given the right to complete their education at the same departments created from the previous schools. Students who had completed the full course of dental schools were allowed to take the final examination for the title of dentist at the newly organised odontological departments [2].

[1] State Archives of the Russian Federation (hereinafter SA RF). F. A482. Op. 1. D. 12. L. 1–5.

Fig. 1. Gilyar-Zdislav Ivanovich Vilga (1864–1942). From the collection of the Museum of the History of Medicine at Moscow State Medical University named after A.I. Evdokimov

Рис. 1. Гилярий-Здислав Иванович Вильга (1864–1942). Из собрания музея истории медицины МГМСУ им. А.И. Евдокимова

The plan of action was reported by the former director of the Moscow dental school, a docent of the Moscow University Gilyary-Zdislav Ivanovich Vilga (Fig. 1) at the meeting of the Scientific Odontological Commission on 2nd September 1918. The programme of theoretical courses remained the same for the 3rd and 5th semesters, it was only necessary to improve the practical classes as much as possible; examinations for the 3rd and 5th semesters in each of the non-closed schools were to be conducted by the same teaching staff; the term of examinations was fixed from September 15th to October the 1st with the right to fix additional examinations from October the 1st to October 15th. Both rooms of the non-closed dental schools were required for the needs of teaching; lecturers and leaders of practical works were to be preferably recruited from among teachers In the clinic of dental diseases, one demonstrator was to serve no more than 10 chairs, in prosthetic technique on phantoms he could supervise a group of 30–40 students, in the fabrication of prostheses —

Fig. 2. The outside look of the Moscow Dental School of Gilyariy Ivanovich Vilga, located at Arbat, 44, Neidgart House. From the collection of the Museum of the History of Medicine at Moscow State Medical University named after A.I. Evdokimov

Рис. 2. Внешний вид московской зубоврачебной школы Гилярия Ивановича Вильга, расположенной по адресу Арбат, дом 44, в домовладении Нейдгарт. Из собрания музея истории медицины МГМСУ им. А.И. Евдокимова

15–20 people[2]. This plan after discussion was adopted by the Academic Odontological Commission with minor amendments, in particular "the programme of theoretical courses remains the same for III and V semesters with the only difference that a special course of social health care is introduced for V semester"[3]. As it will be shown later, in practice it turned out to be quite difficult to implement the stated programme.

At the meeting of the dental sub-section of the People's Commissariat of Health on 28th September 1918 a resolution was adopted: "The dental schools of Associate Professor G.I. Vilga and Dr. I.M. Kovarsky are transformed into educational and auxiliary institutions of the odontological department of the Medical Faculty and transferred to the People's Commissariat of Health. To invite the dentist C.A. Daughe to be the head of the economic part in the former school of Kovarsky and Elena Aleksandrovna Smirnova to be the head of the former school of G.I. Vilga"[4]. And so it turned out that the Moscow Dental School opened in 1909 by a docent G.- Z.I. Vilga, which was located at the address Arbat, house 44 (Fig. 2), was transformed into an educational and auxiliary base of the Department of Surgery of the Jaws and Oral Cavity with Odontological Clinic of the Medical Faculty of Moscow University; all its property became the people's wealth, which was to be supervised by a trusted elected woman of the Dental Sub-Section, and the docent himself turned from the owner and director of the clinic into the head of the clinic at the choice of the Pedagogical Council.

As it was noted in the letter of the Dental Subsection to the People's Commissariat of Health, according to the agreement with the People's Commissariat of Education of the 22nd of October 1918, the educational and auxiliary institutions were to remain under the jurisdiction of the People's Commissariat of Health for as long as the teaching for the former students continued, although on new principles, but according to the same approximate programme as before, "by order of the Section.... the former dental schools were transformed into state dental clinics: the 1st and 2nd Moscow State Clinics (former Kovarsky

[2] SA RF. F. A482. Op. 1. D. 12. L. 31, 31 ob.

[3] SA RF. F. A482. Op. 2. D. 2. L. 24, 24 ob.

[4] SA RF. F. A482. Op. 20. D. 3. L. 43.

Table 1

Schedule of classes at the 2nd Moscow Dental Clinic

Таблица 1

Расписание занятий во 2-й Московской зубоврачебной клинике

III семестр / III semester				
Понедельник / Monday	Анатомия / Anatomy	4–6 ч / h	Протезная техника / Prosthetic technique	6–7 ч / h
Вторник / Tuesday	Бактериология / Bacteriology	3–5 ч / h	Дентиатрия / Dentiatrics	5–7 ч / h
Среда / Wednesday	Пломбирование золотом и фосфором / Filling with gold and phosphorus	3–5 ч / h	Общая хирургия / General Surgery	5–7 ч / h
Четверг / Thursday	Фармакология / Pharmacology	4–6 ч / h		
Пятница / Friday	Общая патология / General Pathology	3–5 ч / h	Протезная техника / Prosthetic technique	5–7 ч / h
Суббота / Saturday	Пломбирование золотом и фосфором / Filling with gold and phosphorus	4–5 ч / h	Дентиатрия / Dentiatrics	5–7 ч / h
Прием больных ежедневно от 9 до 3 часов (по группам) / Reception of patients every day from 9 a.m. to 3 p.m. (per group)				
V семестр / V semester				
Понедельник / Monday	Клинические лекции / Clinical lectures			9–11 ч / h
Вторник / Tuesday	Хирургическая поликлиника / Surgicalout patientclinic			9–11 ч / h
Среда / Wednesday				
Четверг / Thursday	Общественное зубоврачевание / Community dentistry			5–7 ч / h
Пятница / Friday	Хирургическая поликлиника / Surgicalout patientclinic	9–11 ч	Сифилидология полости рта	4–6 ч / h
Суббота / Saturday				
Прием больных в клинике ежедневно от 9 до 3 часов (по группам) / Reception of patients every day from 9 a.m. to 3 p.m. (per group)				

and Wilg schools)... These clinics are maintained by the National Commissariat of Health according to the estimates of the Dental Section since 1 October 1918"[5].

The programme for the 3rd and 5th semesters was discussed on the 13th of October 1918 at the first meeting of the Joint Pedagogical Council of the Dental Section of the Medical Faculty, which included former teachers of dental schools I.M. Kovarsky and G.-Z.I. Vilga. For the trainees of the Arbat Department (former Vilga School), the schedule of classes was adopted as presented in Table 1.

It is interesting that during the discussion of the staff the question of a teacher of the newly introduced public dentistry was left open until the programme of this subject was clarified, and the development of the necessary programme was postponed until the relevant decrees were received from the Academic Odontological Commission[6]. However, a week later, on 20th October 1918, at the second meeting of the Joint Pedagogical Council, K.S. Ginzburg was proposed for the place of a teacher of public dentistry. Being a member of the Academic Odontological Commission, he probably understood what he would teach the students of the clinic[7].

We learn how the final examinations were conducted from the temporary rules on the composition and order of tests for persons seeking the right to practice dentistry. The examinations were taken by a commission under the People's

[5] SA RF. F. A482. Op. 1. D. 12. L. 167, 167 ob.

[6] Central State Archives of the City of Moscow (hereinafter CSAM). F. 412. Op. 1 D. 583. L. 3–4 ob.

[7] CSAM. F. 412. Op. 1. D. 583. L. 7–8.

Commissariat of Health, the chirman of the commission was chosen on a competitive basis on the proposal of the Academic Medical Council, it included teachers of the medical faculty of the university, and examinations on special subjects were taken by teachers of odontological departments of the university (dental clinics). The subjects of the test were anatomy of the oral cavity and neck and physiology, general pathology with pathological anatomy and bacteriology, pathology and therapy of teeth and oral cavity, hygiene of this cavity with questions on pharmacology; practical skills in the clinic of dental diseases with operative dentistry were tested on patients. Test subjects had to find sufficient clinical experience, be able to make an accurate diagnosis, prescribe treatment, carry out the necessary therapeutic manipulations or operations — filling of teeth, extractions, teach, etc.[8]

Students of dental clinics practised their skills on patients under the guidance of teachers-demonstrators. Admission of patients in the clinic took place daily from 10 a.m. to 2 p.m. at the rate of 12 people (including two primary) for each of the working dentists-demonstrators and 5 people (including one primary) for each dentist-practitioner[9].

The practical dental skills of the 1919 graduates of the Moscow dental clinics could have been problematic. Revision of the training programme and shortage of teachers led to the fact that by the beginning of September 1919, when it was time to take the final exams, the majority of students were not able to pass the planned number of practical classes — 50–60 techniques, 5–10 extractions and a significant number of technical works were not completed. The Joint Pedagogical Council of dental clinics proposed to prolong the training sessions for a month, but by order of the Dental Subsection of the People's Commissariat for Health "it was decided to allow to the final examinations all those who have a newly established minimum of practical work regardless of whether all the theoretical credits passed". In the journal of the meetings of the board of the Dental Subsection we find the reason for this decision: "in the form of the necessity to liquidate the former dental schools as soon as possible in order to transfer them to the Faculty of Medicine, the petition should be rejected. As for the replenishment of the knowledge of insufficiently trained students, it should be pointed out that it is planning to open an Odontological Institute, where admission will be opened for this category of persons"[10]. The newly established minimum of compulsory practical work included 200 techniques, 10 dental fillings and 10 extractions. However, in case of shortage of a certain number of extractions and such students were allowed to be admitted to the examinations[11]. And even for those students who could not pass the state examinations, the way to dentistry was not closed — by the decision of the board of the Dental Subsection of 8–10 October 1919 they could be allowed to work in dental outpatient clinics as auxiliary personnel[12].

As already mentioned, from the beginning the dental clinic had problems with its staff: a lot of doctors refused to work because of the "insignificance of the remuneration", in this connection the Pedagogical Council decided to "initiate a motivated petition to increase the fees of the above-mentioned doctors"[13]. The problem of personnel was aggravated by the mobilisation of dentists to the Red Army. The head of the clinic, G.-Z.I. Vilga, wrote to the Medical Faculty I of Moscow State University: "I inform you that according to the staff of the Odontological Clinic there are 3 assistants and 9 residents. On the person of assistants — 1. Assistants without teaching duties — residents — dentists — 6. Called up for military service assistants without teaching duties, performing resident duties — dentists: 1) Gurevich Boris Abramych. 2) Neimenov Maxim Semyonovich, about whom it is desirable to initiate a petition for their return to the Clinic"[14]. We have not found any documents testifying to the return of these dentists to the Clinic, but the Clinic's request for dentist A.U. Danilevsky — the only remaining assistant at the Clinic, who read courses of the jaw and oral surgery, odontology and X-ray diagnostics — received a reply from the head of the Main Military Sanitary Department: "the commission at the People's Commissariat for Health did not recognise it possible to satisfy the petition for exemption from mili-

[8] CSAM. F. 412. Op. 1. D. 586. L. 11, 11 об.

[9] CSAM. F. 412. Op. 1. D. 591. L. 14.

[10] SA RF. F. A482. Op. 20. D. 8. L. 76.

[11] CSAM. F. 412. Op. 1. D. 583. L. 24, 26.

[12] SA RF. F. A482. Op. 20. D. 8. L. 93 ob.

[13] CSAM. F. 412. Op. 1. D. 583. L. 3–4 ob.

[14] CSAM. F. 412. Op. 1. D. 591. L. 2.

tary service of doctor Danilevsky due to the lack of medical personnel in the army"[15]. In the end, however, Danilevsky's assistant was still exempted from conscription[16], probably because the army's need for dentists had already been satisfied by that time, and the frequently practised use of dentists as lectors was deemed inexpedient.

Thus, after the transformation of the Second Dental School into the Second Dental Clinic, little changed for the students, except for the introduction of a new discipline, public dentistry, and a marked reduction in the amount of practical work. The main difference was the channels of financing of the clinic. Before the revolution the training of future dentists in a private dental school was quite expensive, and the dental care provided by the teachers with the participation of students brought the school a small but stable additional income, then after the victory of the revolution both the training of students and the treatment of patients in need of dental care became free of charge.

The Council of People's Commissars in the meeting on 26th of November decided: "Recognising the necessity of maintaining the five dental schools that have been transformed into auxiliary educational institutions: the 1st in Petrograd, the 2nd in Moscow, the 1st in Saratov, the 1st in Kazan, until their final transfer to the medical faculty of the State University: "To authorise the People's Commissariat for Health Care to allocate the expenditure of (759, 570) seven hundred and fifty-nine thousand five hundred and seventy roubles required during October, November and December 1918, according to the estimate for the maintenance of the said five schools to the possible balance of the budget of the People's Commissariat for Health Care for 1918"[17]. The head of the Dental Sub-section of the People's Commissariat of Health P.G. Daughe sent a telegram to the 2nd Moscow Dental Clinic with the following content: "The Dental Section proposes to provide an estimate for supplying... the clinic with all necessary items. Until the estimate is received, any release of goods to the General Supply Department will be closed"[18].

The employees of the clinic became civil servants and received salaries according to the tariff scale (for doctors its size was determined mainly by their professional experience). The low salaries were also regularly delayed, about which the employees of the 2nd Moscow Dental Clinic complained to the Conflict Commission of the People's Commissariat of Labour[19]. The employees were helped to survive by the rations they were entitled to, as evidenced by a note from the clinic's caretaker to shop No. 19: "I ask you to release bread for 22 people for 5 days for 6, 7, 8, 9, 10 for the employees of the Odontological Clinic of the 1st Moscow State University for 5 days for 6, 7, 8, 9, 10, for I pound per day per person in the amount of 2 pud[s] 30 pound[s] according to invoice No. 1652"[20]. However, the ration could be forfeited, in particular, for leaving work prematurely without a signature in a special notebook, which was a gross violation of the decree on labour conscription[21].

Another small item of expenditure on dental clinics was a stipend, which was paid to some particularly needy students. The petition of the students of the 2nd Moscow Dental Clinic for subsidies to continue their education was considered at a meeting of the board of the Dental Subsection on the 29th of January 1919, the students were offered "to apply for a subsidy to the senate of higher educational institutions and to the Commission for social security of needy students. At the same time to initiate a petition from the sub-section to issue subsidies to the listeners of the dental clinic from the general fund of students of higher educational institutions..."[22]. On 8th February 1919, at a regular meeting of the board it was noted: "In view of the refusal of the People's Commissariat of Education to subsidise the persons in question as being under the jurisdiction of the People's Commissariat of Health, I ask the head of the sub-section, P.G. Daughe, to petition the board to issue a grant of 5,400 roubles"[23]. At the meeting of the board of the Dental Sub-section on the 21st of May 1919 the question of subsi-

[15] CSAM. F. 412. Op. 1. D. 586. L. 88; D. 592. L. 10 об.

[16] CSAM. F. 412. Op. 1. D. 592. L. 13.

[17] SA RF. F. A482. Op. 1. D. 12. L. 97.

[18] CSAM. F. 412. Op. 1. D. 586. L. 92.

[19] CSAM. F. 412. Op. 1. D. 586. L. 54.

[20] CSAM. F. 412. Op. 1. D. 591. L. 15.

[21] CSAM. F. 412. Op. 1. D. 592. L. 29; D. 594, L. 6, 16, 19, 33.

[22] SA RF. F. A482. Op. 20. D. 8. L. 7 ob.

[23] SA RF. F. A482. Op. 20. D. 8. L. 11.

dies to the students of the 1st and 2nd Moscow dental clinics was again considered. The resolution read: "Taking into account that the number of scholarship holders of both clinics should not exceed 15 per cent of all students, to propose to the committees of students of both clinics to submit nominal lists for granting scholarships to 18 students of the 1st clinic and 15 students of the 2nd clinic. The amount of scholarships to be determined upon receipt of the list and consideration of individual applications"[24].

However, teachers' salaries and stipends for individual students were certainly not the main item of expenditure. Now, in order to obtain the necessary materials and medicines for the clinic, it was necessary to submit information to the dean's office of the university within two days. In the archives there were many letters in which the clinic asked to buy the necessary materials and medicines[25], gauze and bandages[26], syringes and beakers[27], spirit[28], soap and paraffin[29] etc. Especially heated correspondence with the board of the Moscow State University was about the purchase of a handcart for transporting paraffin, alcohol and medicines, as well as a bundle of medium-thick ropes for carrying heavy loads, such as firewood[30]. The question of repairing the premises and plumbing was almost impossible to solve[31]. Of course, the petition of the head of the 2nd Moscow Dental Clinic with a request to open an X-ray room in the clinic was rejected by the board of the Dental Subsection of the People's Commissariat for Health on 19 February 1919 without explanation[32].

It is noteworthy the statement of P.G. Dauge made on 15th October 1919 at the meeting of the board of the Dental Sub-Section that "a number of papers addressed to the Section and having an official character are lingering and often unanswered in the portfolios of the heads of departments" and the corresponding resolution of the board — "to transfer all available papers to the office for distribution to the archive. In the future, all papers should be handed over to the secretaries as they are used". Probably, it was thanks to this decision that we managed to restore the history of the 2nd Moscow Dental Clinic.

Meanwhile, its history was nearing completion. The fatal mistake of G.-Z.I. Vilg was the use of materials belonging to him in the 2nd Moscow Dental Clinic — the respected private professor of the Moscow University and member of the Academic Odontological Commission naively believed that he would be compensated for his expenses. On the 26th of June the board of the People's Commissariat of Health under the chairmanship of N.A. Semashko considered this question. "Conclusion of the State Audit Office on the issue of payment to Dr Vilga for dental materials taken from him for the dental clinic. The National Audit Office reports that there are no obstacles on its part to the payment of Dr Vilga's invoices. We decided to ask the National Audit Office to give an opinion on whether the People's Commissariat of Health is legally obliged to pay for the materials"[33].

To such an escapade of his former colleague in the Russian Dental Union, the head of the Dental Sub-section of the Medical Section of the People's Commissariat of Health P.G. Dauge reacted with all the revolutionary uncompromisingness. At a meeting of the board of the Dental Sub-Section on the 8th of February 1919 the question of payment of the bills of G-Z.I. Vilga for the total sum of 53,337 ruble 75 kopecks was considered. The resolution read: "In view of the failure to comply with the decree of the People's Commissariat of Health of 18th September on the provision of an inventory of all available materials, invoices should be declared cancelled and the goods should be confiscated"[34].

The above-mentioned letter of the Dental Section to the People's Commissariat of Health stated: "Some of the former school owners continue to look upon the clinics as their property: for example... Dr G.I. Vilga submitted to the Financial Department of the People's Commissariat of Health an invoice for 53,000 rubles for drugs and filling material "sold" to the 2nd Moscow Dental Clinic, etc. The Dental Section believes that such claims are completely unfounded. If the decree

[24] SA RF. F. A482. Op. 20. D. 8. L. 31.

[25] CSAM. F. 412. Op. 1. D. 589. L. 27, 28.

[26] CSAM. F. 412. Op. 1. D. 589. L. 18.

[27] CSAM. F. 412. Op. 1. D. 589. L. 19a, 32.

[28] CSAM. F. 412. Op. 1. D. 589. L. 26.

[29] CSAM. F. 412. Op. 1. D. 589. L. 30, 31.

[30] CSAM. F. 412. Op. 1. D. 589. L. 12, 20, 21.

[31] CSAM. F. 412. Op. 1. D. 589. L. 10, 24; D. 591. L. 2, 7.

[32] SA RF. F. A482. Op. 20. D. 8. L. 13.

[33] SA RF. F. A482. Op. 20. D. 7. L. 22.

[34] SA RF. F. A482. Op. 20. D. 8. L. 11 ob.

on the organisation of state dental care allows the requisitioning without redemption of dental clinics with more than one chair, the more justly this principle should be applied to the former dental schools, where there was exploitation of assistants, dental masters and apprentices, where surplus value was extracted in the most blatant way. The Dental Section considers it necessary for the People's Commissariat of Health to issue a special order in addition to the decree of 1st October, by which the former dental schools with all their equipment, tools, materials and medicines would be declared the property of the country"[35].

On the 9th of May 1919 in the 98th edition of "Izvestiya (News)" of the All-Russian Central Executive Committee of Soviets was published the corresponding resolution of the People's Commissariats of Health and Education "On the nationalisation of former dental schools", which declared all former dental schools with their inventory, tools, materials and supplies to be the property of the Republic" [3]. It should be noted, however, that as early as January 29th 1919 at a meeting of the board of the Dental Subsection it was decided that "dental schools, as being purely entrepreneurial in nature, are subject to nationalisation without redemption, except in cases provided for by the decision of the Committee of Public Education (loss of ability to work by the owner, etc.)"[36].

The class hatred of the dentist and revolutionary, head of the Dental Sub-section P.G. Dauge towards the odontologist and private docent G.-Z.I. Vilga was so great that a few days after the publication of the decree of the People's Commissariats of Health and Education "On the nationalisation of the former dental schools" and a few months before the final liquidation of the former schools he attempted to close the 2nd Moscow Dental Clinic by merging it with the 1st. The question was discussed under the pretext of a demand of the State Control to reduce the staff in all institutions.

This problem was discussed at the meeting of the Board of the Dental Subsection on the 17th of May 1919: "Since the small number of students of both clinics can be served by one clinic [it is necessary] to close the 2nd Dental Clinic, leaving the 1st one as more adaptable. The attendees of the 2nd clinic should be transferred to the 1st clinic" [37].

However, the Academic Odontological Commission argued against the merger of the clinics on 16th June 1919. Such a measure would have a detrimental effect on the proper course of training sessions and would lead to insufficient preparation of future dentists to independently provide dental care to the population. And such a conclusion was adopted by the Commission on the basis of the following considerations:

1) If the two clinics were merged into one, the students of the closed clinic, mainly those living in its neighbourhood, would not be able to attend classes properly with the existing means of communication.
2) The number of patients due to the merger of the clinics would be so significantly reduced that the students would not be able to perform the prescribed number of techniques required for minimum practical training.
3) Considering that the fifth term is a purely practical term, where students, unlike in other terms, must work daily to acquire clinical skills, and that the number of students in both clinics is currently 250 and increasing, the Odontological Commission considers that the available number of demonstrators and teachers and the existing number of chairs in both clinics are necessary for the normal conduct of the teaching process.
4) Finally, the implementation of the project of merging the dental clinics would lead to a significant interruption in the classes, which must already be carried out with extreme intensity for the success of the work[38].

Thus, the merger did not take place, the students of the 1st and 2nd Moscow dental clinics were allowed to finish their studies until the autumn without new upheavals.

The question of closing the Moscow dental clinics was discussed on 10th September 1919 at the meeting of the board of the dental sub-section of the People's Commissariat of Health[39]; their final liquidation was scheduled for 1st October 1919; until that date the entire staff remained in place. At the meeting of the board on the 13th of September it was decided "to propose to the staff of the schools, wi-

[35] SA RF. F. A482. Op. 1. D. 12. L. 167, 167 ob.

[36] SA RF. F. A482. Op. 20. D. 8. L. 8.

[37] SA RF. F. A482. Op. 20. D. 8. L. 29.

[38] SA RF. F. A482. Op. 20. D. 10. L. 40.

[39] SA RF. F. A482. Op. 20. D. 8. L. 8.

shing to obtain a post after the liquidation of the schools, to submit applications to the Section. In the application they should indicate the type of service they wish to receive: administrative or specialised, in Moscow or away"[40]. G.-Z.I. Vilga, the former director of the dental school and then the head of the 2nd Moscow dental clinic, the docent of the Moscow University, solved the problem of employment radically: in 1922 he took Polish citizenship and emigrated to Poland, where in the same year he was elected professor of the dentiatrics department of the Polish Institute of Odontology [1].

This was the end of the agony of school dental education in Moscow. It is obvious that the attempt to turn private dental schools into state dental clinics in the conditions of shortage of teachers and lack of sufficient funding could not be successful and only led to a decrease in the quality of education. Moreover, the personal animosity of the head of the Dental Sub-section of the People's Commissariat of Health P.G. Dauget towards the work of the privat-docent of the Moscow University G.-Z.I. Vilga, the former director of the advanced dental school, was not constructive and resulted in the loss of qualified specialists and the departure of the well-known doctor abroad. The uncertainty and radicality of the methods of rapid transformation of dental schools into dental clinics slowed down the development of dentistry in Russia for a short while, which once again highlights the difficulty and ambiguity of the decisions made in the first period of reforming medical education and transferring it to the state system.

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Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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[40] SA RF. F. A482. Op. 20. D. 8. L. 83.

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ORGANIZATION OF MEDICAL ASSISTANCE TO NEWBORN IN THE CONDITIONS OF THE PERINATAL CENTER: STATE, ADVANTAGES AND PROBLEMS

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ABSTRACT. The organization of medical care for newborns in Russia is based on the continuity of obstetric and pediatric services. In modern conditions the main principle of providing medical care to women during pregnancy, childbirth, the postpartum period, and newborns in the Russian Federation is its regionalization. The regionalization of obstetric and perinatal care involves the division of obstetric and gynecological hospitals into three levels, each of which has specific tasks and powers. In modern conditions, the regional perinatal centers, whose work is coordinated by the perinatal centers of the federal level, have become the leaders of the service for the protection of motherhood and childhood of the constituent entities of the Russian Federation. The activities of perinatal centers make it possible to concentrate in one place the most hardcontingent of pregnant women, women in childbirth, puerperas, newborns, who, based on the use of modern preventive and therapeutic and diagnostic technologies, are provided with timely highly qualified specialized medical care. Thanks to the introduction of a three-level system of medical care for pregnant women, women in childbirth, puerperas and newborns and the effective functioning of perinatal centers, it became possible to reduce perinatal, early neonatal and infant mortality. Thus, the introduction of perinatal centers at the federal and regional levels determined the procedure for transforming the obstetric service in our country and made it possible to significantly influence the demographic situation.

KEY WORDS: perinatal center; newborns; pregnant women; specialized medical care; regionalization of obstetric and perinatal care.

ОРГАНИЗАЦИЯ МЕДИЦИНСКОЙ ПОМОЩИ НОВОРОЖДЕННЫМ В УСЛОВИЯХ ПЕРИНАТАЛЬНОГО ЦЕНТРА: СОСТОЯНИЕ, ПРЕИМУЩЕСТВА И ПРОБЛЕМЫ

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РЕЗЮМЕ. Организация медицинской помощи новорожденным в России базируется на преемственности акушерской и педиатрической службы. На сегодняшний день основным принципом оказания медицинской помощи женщинам в период беременности, родов, в послеродовом периоде и новорожденным в Российской Федерации является ее регионализация. Регионализация акушерской и перинатальной помощи предполагает разделение акушерско-гинекологических стационаров на три уровня, для каждого из которых определены специфические задачи и полномочия. В современных условиях во главе службы охраны материнства и детства субъектов Российской Федерации встали региональные перинатальные центры, работа которых координируется перинатальными центрами федерального уровня. Деятельность перинатальных центров позволяет сконцентрировать в одном месте наиболее тяжелый контингент беременных женщин, рожениц, родильниц, новорожденных детей, которым на основе использования современных профилактических и лечебно-диагностических технологий оказывается своевременная высококвалифицированная специализированная медицинская помощь. Благодаря внедрению трехуровневой системы оказания медицинской помощи беременным, роженицам, родильницам и новорожденным и эффективной деятельности перинатальных центров удалось добиться снижения перинатальной, ранней неонатальной и младенческой смертности. Таким образом, внедрение перинатальных центров федерального и регионального уровня обусловило порядок преобразования службы родовспоможения в нашей стране и позволило существенно повлиять на демографическую ситуацию.

КЛЮЧЕВЫЕ СЛОВА: перинатальный центр; новорожденные; беременные; специализированная медицинская помощь; регионализация акушерской и перинатальной помощи.

The leading organisational model for the development of obstetric and perinatal care, recognised and used in the most developed foreign countries, is the three- level system of medical care for mothers and children. The three-level system implies the availability of a sufficient number of beds for the pregnant women, women in labour and newborns; a system for monitoring the health status of pregnant women and newborns and remote counselling systems; and the use of mobile forms of medical care, including medical evacuation, depending on geographical conditions and transport availability by the road or by the air transport [3, 36].

The organisation of medical care for newborns in Russia is based on the continuity of

obstetric and paediatric services. Today, the main principle of medical care for women during pregnancy, labour, postpartum period and newborns in the Russian Federation is its regionalisation. Regionalisation is the organisation of the stages of medical care, which ensures its maximum timeliness, adequacy, efficiency and safety at the most rational and low cost for the health care system [17, 42].

Regionalisation of the obstetric and perinatal service involves the division of obstetric and gynaecological hospitals into three levels, each with specific tasks and powers [17, 29]. This organisation of the service ensures continuity of care based on uniform standards for all levels and on uniform criteria for hospitalisation and transfer of complicated cases. Under the conditions of the formed three-level system of neonatological care at the regional level, a clear scheme (an algorithm) of routing of sick newborns to intensive care units, neonatal pathology units, as well as routing of newborns with congenital pathology and/or infectious and inflammatory diseases is approved [23–26].

The routing of pregnant women depending on the degree of perinatal risk was an indicator of the three- level system formed. All obstetric hospitals in the Russian Federation are divided into levels depending on their bed capacity, equipment and personnel support, according to their ability to provide medical care to pregnant women, women in labour and newborns. The criteria for assigning obstetric hospitals to the first, second and third groups are given in the order of the Ministry of Health of Russia from the 20th of October 2020 No. 1130 "On approval of the Procedure for the provision of medical care in the profile of "obstetrics and gynecology" [25].

The first level: obstetric departments of district hospitals that do not have a 24-hour on-call service of an obstetrician-gynaecologist, neonatologist, or intensive care physician, as well as medical organisations that have an emergency maternity ward. The first level organisations include the majority of physiological maternity hospitals (MH) and maternity departments (MD) with neonatology beds, including neonatal intensive care beds. Obstetric hospitals at the first level are used for the hospitalisation and delivery of patients of low obstetric risk group. Births at the first level are: premature (gestational age 37–40 weeks); with one foetus; and in a head position. The procedure for providing medical care to the newborn after delivery is the same regardless of the level of obstetric care organisation. All first-level obstetric care organisations are attached to second- and third-level obstetric care organisations.

The second level may include MHs (MDs), including those profiled by type of pathology, which have in their structure neonatal and premature babies' pathology departments, as well as neonatal intensive care wards. In addition, this includes the inter-district (inter-municipal) centre with a neonatal intensive care unit (NICU). Obstetric hospitals at this level deliver low- and medium-risk pregnant women. The functions of second-level obstetric hospitals include referral of high-risk pregnant women to a perinatal centre(PC). Second-level obstetric care organisations ensure cooperation with first-level medical organisations in the attached districts. Each subject of the Russian Federation appoints an obstetric hospital from second-level obstetric care organisations, which performs the functions of a third-level obstetric care organisation in the event of the closure of a PC.

The third level: obstetric hospitals with a department of anaesthesiology and resuscitation for women, a neonatal intensive care unit, a neonatal pathology department (stage II of nursing) and an obstetric distant consultation centre (ODCC).

Third-level obstetric hospitals are responsible for the hospitalisation and delivery of patients of any obstetric risk group. However, they will largely concentrate all pregnant and postpartum women with a high perinatal risk, including those with premature births (65 per cent or more) at 22 weeks' gestation and above, with the risk group being determined on the basis of the results of monitoring of pregnant women. The main contingent of pregnant women, women in labour and newborns: Severe extragenital diseases; severe pre-eclampsia and eclampsia; placenta previa and detachment; pregnancy complications contributing to hemostasis disorders and obstetric haemorrhage; preterm birth from 22 to 37 weeks of gestation; congenital malformations of the fetus requiring surgical correction; high obstetric and perinatal risk; critically low birth weight. It should be noted that in distributing pregnant women for delivery in obstetric hospitals, depending on the level, the condition of the mother that is of primary importance. Even with a healthy baby, the presence

of obstetric risk is a reason for admission to the next level of obstetric care [21]. Third-level organisations are perinatal centres (PCs) or MHs performing their functions, which have neonatal intensive care units and neonatal pathology units (stage II of nursing). The third level is divided into sub-levels A and B. The third A level is obstetric hospitals at the level of the constituent subject of the Russian Federation, which include regional PCs, and the third B level is obstetric hospitals of federal medical organisations providing specialised, including high-tech, medical care for women during pregnancy, childbirth, postnatal period and newborns (federal PCs) [22].

The establishment and development of a three-level model of obstetric and perinatal care in our country began in the early 2000s, when the problems of population reproduction were seriously discussed, and the level of maternal and infant mortality became a national problem. In this direction, various federal and regional programmes were developed and introduced into the activities of practical healthcare, which were supposed to significantly affect the reduction of these indicators. However, a stable normative and legal basis for the modern system of medical care for pregnant women, women in labour and newborns was formed somewhat later. In order to ensure the availability and quality of medical care for mothers and children, the Programme for the Development of Perinatal Centres in the Russian Federation was approved by the Russian Government Order No. 2302-p of the 9th of December 2013 [29]. The programme provided for the construction of 32 regional perinatal centres (PCs) in 30 of the most urgently needed regions of the Russian Federation over the next five years. The main objectives of this programme were to improve the territorial model of obstetric and neonatal care, to increase the efficiency of perinatal care and to reduce maternal and infant mortality, etc. As a result of the implementation of the programme, by 2018, most constituent regions of the Russian Federation had fully completed the formation of a three-level system of medical care for pregnant women, women in labour and newborns. Nevertheless, the Russian Federation Government Decree No. 1640 of the 26th of December 2017 approved the State Programme of the Russian Federation "Health Care Development" [20], which was to continue the Programme for the Development of PCs in the Russian Federation in 2013–2017, to improve the results achieved during its implementation. Among other goals, the new programme aimed to reduce infant mortality to 4.5 cases per 1,000 live births by 2024.

The main functions of the centres are: to provide consultative, diagnostic, therapeutic and rehabilitative care, mainly to the most difficult contingent of pregnant women, women in labour, newborn children and women with reproductive disorders through the use of modern preventive and therapeutic diagnostic technologies; to carry out interaction between maternal and child health care institutions; to carry out rapid monitoring of the condition of patients in need of intensive care; and to ensure the timely delivery of medical care to the most vulnerable groups of pregnant women, women in labour, newborn children and women with reproductive disorders. In addition, the functions of federal PCs include the development and replication of new methods of diagnosis and treatment of obstetric, gynaecological and neonatal pathology and monitoring and organisational and methodological support of obstetric hospitals in the constituent entities of the Russian Federation [14, 29, 40].

The structure of the PC should include:

1. The consultative-diagnostic department (polyclinic), including consulting rooms for pregnant women, office for non-pregnancy, consulting rooms for couples with impaired reproductive function, family planning office, offices of a general practitioner and other specialist doctors, office of medical-genetic counselling, office (room) of physio-psychoprophylactic preparation of a pregnant woman and her family for childbirth and partner labour, offices of anesthesiology and rehabilitation, offices of medical-psychological and socio-legal assistance to women, treatment room, small operating rooms, outpatient department (office) for young children in need of dynamic supervision and rehabilitation, department of assisted reproductive technologies, office of functional diagnostics, a physiotherapy department (office), a dental office, a day hospital with 10–15 beds (with a boarding house for visitors).
2. An obstetric hospital with a pregnancy pathology department; a labour ward (individual labour rooms) with operating rooms;

an anaesthesiology department with intensive care wards for women with a biochemical and functional monitoring group; an obstetric physiological department with joint stay of mother and child; an obstetric observation department (boxed wards, in their absence — isolation ward; wards for mother and child); a department of extracorporeal methods of haemocorrection; remote consultation center with anesthesiological and resuscitation obstetric emergency medical teams.

3. Paediatric hospital with neonatal departments of obstetric physiological and obstetric observation wards; neonatal intensive care unit with express laboratory; remote consultative centre with on-site anaesthesiology and resuscitation neonatal teams of emergency medical aid; neonatal and premature babies pathology department (stage II of nursing).
4. The gynaecological department.
5. The clinical-diagnostic department with clinical-diagnostic and bacteriological laboratories; with molecular diagnostics laboratory (if it is necessary).
6. The organisational and methodological department.
7. The administrative-economic unit with auxiliary services [14].

In modern conditions, the effectiveness of perinatal centers in Russian regions has been proven. A significant number of scientific studies covering federal districts and subjects of the Russian Federation have been devoted to this [5, 11, 13, 39]. The study conducted in the regional perinatal center of the Moscow Region allowed to identify reserves for improving the quality of medical care, which included: improving preventive care and medical examination of the female population; improving the links between the perinatal center and women's clinics, children's polyclinics and hospitals in the region; more vigorous use of modern technologies and medical and economic standards; improving the qualifications of medical workers, etc. The data obtained made it possible to develop and implement a number of measures aimed at improving the health status of mothers and infants. As a result, the availability and quality of obstetric and gynecological care for women increased, which had a positive impact on maternal and perinatal mortality rates. The morbidity of pregnant women has significantly decreased. The number of PC visits and bed occupancy per year increased, which led to an increase in its turnover [9].

The transformation of the municipal maternity hospital into the regional RC of the Kola North allowed for a complete change in the work of the obstetric hospital: the number of births increased, the share of non-resident women increased, the frequency of caesarean sections increased, etc. The introduction of the PC allowed to reduce infant and perinatal mortality rates (primarily due to early neonatal mortality). The maternal mortality rate has significantly decreased (6.5-fold reduction). It should be noted that the vast majority of women (97.9%) are fully satisfied with the medical care received at the PC [27].

A marked decrease in perinatal, early neonatal, and infant mortality (which had a favorable impact on the demographic situation in the Murmansk Region) was achieved due to the introduction of a three-level system of medical care for pregnant women, women in labor and delivery, and newborns, as well as the effective activity of the regional PC [15].

Analysis of the work of the Primorye Territory PC allowed the research team to identify both the strengths and weaknesses of its work. The strengths include the introduction of antenatal clinics into the structure of the PC, which allowed for continuity of care for pregnant women and gynecological patients. Due to social support from the state under the "Maternity Certificate" program, the number of births has increased. The opening and functioning of a neonatal pathology department, a neonatal intensive care unit, a rehabilitation department for children under three years of age, a consultative and diagnostic department for women with reproductive health disorders, and a gynecological department at the health center has made it possible to reduce fetoinfant losses and improve the quality of life of patients. One of the weaknesses is the shortage of highly qualified medical personnel (doctors, nurses and medical assistants). Thus, only 63.5% of all doctors had categories, and 56.6% of nursing staff had categories [6].

As a result of PC activity in Yaroslavl Region, the proportion of preterm births at the first and second levels decreased 2-fold. During the 4 years of PC operation, the birth of extremely low birth weight babies (ELBW) increased sig-

nificantly, which allowed to raise the proportion of their survival rate in obstetric hospitals in the region to 82.1% [7, 37].

The organization of a three-level obstetric care system in the Orenburg Region allowed to reduce infant mortality in the perinatal, early neonatal and neonatal periods of life. It is noted that further development of this system of obstetrics care will be facilitated by increasing the network of PCs and coordinated routing of pregnant women [2, 8].

However, in addition to perinatal centers, the activities of neonatal centers, neonatal pathology departments with intensive care units in multidisciplinary and specialized hospitals play a huge role in combating neonatal mortality [4, 33, 38, 43].

The formation of a modern system of emergency care for newborns began in Leningrad as early as 1978. The city's first neonatal intensive care unit was organized and opened in the multidisciplinary children's city hospital No. 1. At the same time, a specialized children's emergency medical aid substation was established on the territory of this hospital, which included teams providing reanimation and consultative care for newborns and working in close cooperation with this department. Already after 7 years of work of this substation on its base was organized a reanimation and advisory center for newborns, which made it possible to establish a system of monitoring of threatened conditions of newborns in the city. At the same time with the analysis of the work on rendering emergency care to newborns, the Resuscitation and Consultative Center performs the functions of a regional bureau of hospitalization of this contingent of patients. The main goals of this Center are: obtaining information about the newborn and completing a formalized medical history; assessing the severity of the patient's condition, the level of transportability and the profile of his pathology; consulting on the medical care of the infant before the arrival of the specialized ambulance; determining the urgency of its arrival and managing the visiting teams; determining the most appropriate mode of hospitalization; compiling a list of newborns in a threatened state; remote monitoring of infants who are in a threatened state. Specialized ambulances have life support systems, ventilators, incubators, infusion pumps, oxygen tanks and patient monitors. Each year, specialized teams transport more than 4000 newborns, of which half are critical infants [12, 13, 28, 37].

Over the last ten years, several more specialized neonatal intensive care units have been opened in children's city hospitals in St. Petersburg. All units have modern equipment and highly qualified staff [1, 10, 16]. The system of emergency and urgent care for newborns operating in St. Petersburg has proven to be highly effective in reducing early neonatal, neonatal and infant mortality [32].

One of the important functions of the maternity hospital/birth center is to increase breastfeeding rates. The value of natural breastfeeding is undeniable for any child, whether premature or premature, healthy or sick. Despite the fact that the third level, unlike the first and second level, contains the most difficult newborns who stay there for long periods of time, work to support, promote and protect natural feeding should be actively pursued. Since the PC is the leading medical organization at the third level of the obstetric care system, one of its main tasks is to promote and encourage breastfeeding among the mothers there. This work should be carried out in all units of the primary care center in accordance with the principles of objective evidence and continuity [19, 30, 34, 41].

For the PC, the implementation of the task of stimulating the breastfeeding should start from its consultative and diagnostic department. When a healthy newborn baby is born, its first breastfeeding is carried out in the delivery room, where counseling and assistance to the birthing woman on breastfeeding should be provided [26]. Continued promotion of natural breastfeeding and training of mothers in the correct feeding of their children continues in the postnatal ward. The organization of breastfeeding for premature and sick newborns in the intensive care unit and the neonatal pathology unit requires special attention [14, 28, 31, 33, 39, 42, 44].

The main indicators of breastfeeding assessment in obstetric hospitals are:

- "skin-to-skin" contact between mother and newborn in the delivery room during the first 5 minutes after birth and lasting at least 1 hour;
- putting the baby to the mother's breast during the first hour of the early neonatal period;
- the proportion of newborns who were exclusively breastfed from birth to discharge home from the hospital;

- the proportion of breastfed newborns at the time of discharge home [41].

A modern perinatal center provides highly qualified and highly specialized medical care to pregnant women, women in labor and delivery, and newborn babies [35]. Currently, 98 perinatal centers are functioning in Russia. Since they are the head institutions in the territory, it is necessary to organize and maintain close contacts of their leading specialists with medical organizations providing obstetric-gynecological and neonatological care at the first and second levels. To this end, constant methodological assistance, staff rotation and, according to some authors, revival of the institution of curation should be carried out [18, 28, 36, 40, 42, 43].

Thus, the introduction of new PCs at the federal and regional levels, where specialized, including high-tech medical care should be provided to pregnant women, women in labor and children of the first month of life, has determined the order of transformation of obstetrics service in our country. In the context of the ongoing reform of the maternal and child health care service, it is very important to constantly analyze the results obtained on perinatal care during its regionalization.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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ПРАВИЛА ДЛЯ АВТОРОВ

Утв. приказом и.о. ректора
ФГБОУ ВО СПбГПМУ Минздрава России от 23.06.16

НАСТОЯЩИЕ ПРАВИЛА ДЛЯ АВТОРОВ ЯВЛЯЮТСЯ ИЗДАТЕЛЬСКИМ ДОГОВОРОМ

Условия настоящего Договора (далее «Договор») являются публичной офертой в соответствии с п. 2 ст. 437 Гражданского кодекса Российской Федерации. Данный Договор определяет взаимоотношения между редакцией журнала «Medicine and health care organization / Медицина и организация здравоохранения» (далее по тексту «Журнал»), зарегистрированного Управлением Федеральной службы по надзору в сфере связи, информационных технологий и массовых коммуникаций по Северо-Западному федеральному округу 17 мая 2016 года, свидетельство ПИ № ТУ78–01872, именуемой в дальнейшем «Редакция» и являющейся структурным подразделением ФГБОУ ВО СПбГПМУ Минздрава России, и автором и/или авторским коллективом (или иным правообладателем), именуемым в дальнейшем «Автор», принявшим публичное предложение (оферту) о заключении Договора.

Автор передает Редакции для издания авторский оригинал или рукопись. Указанный авторский оригинал должен соответствовать требованиям, указанным в разделах «Представление рукописи в журнал», «Оформление рукописи». При рассмотрении полученных авторских материалов Журнал руководствуется «Едиными требованиями к рукописям, представляемым в биомедицинские журналы» (Intern. committee of medical journal editors. Uniform requirements for manuscripts submitted to biomedical journals // Ann. Intern. Med. 1997; 126: 36–47).

В Журнале печатаются ранее не опубликованные работы по профилю Журнала.

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Размещение публикаций возможно только после получения положительной рецензии.

Все статьи, в том числе статьи аспирантов и докторантов, публикуются бесплатно.

ПРЕДСТАВЛЕНИЕ РУКОПИСИ В ЖУРНАЛ

Авторский оригинал принимает редакция. Подписанная Автором рукопись должна быть отправлена в адрес редакции по электронной почте на адрес medorgspb@yandex.ru или lt2007@inbox.ru. Автор должен отправить конечную версию рукописи и дать файлу название, состоящее из фамилии первого автора и первых 2–3 сокращенных слов из названия статьи. Информацию об оформлении можно уточнить на сайте: http://www.gpmu.org/science/pediatrics-magazine/Medicine_organization.

СОПРОВОДИТЕЛЬНЫЕ ДОКУМЕНТЫ

К авторскому оригиналу необходимо приложить экспертное заключение о возможно-

сти опубликования в открытой печати (бланк можно скачать на сайте https://www.gpmu.org/science/pediatrics-magazine/).

Рукопись считается поступившей в Редакцию, если она представлена комплектно и оформлена в соответствии с описанными требованиями. Предварительное рассмотрение рукописи, не заказанной Редакцией, не является фактом заключения между сторонами издательского Договора.

При представлении рукописи в Журнал Авторы несут ответственность за раскрытие своих финансовых и других конфликтных интересов, способных оказать влияние на их работу. В рукописи должны быть упомянуты все лица и организации, оказавшие финансовую поддержку (в виде грантов, оборудования, лекарств или всего этого вместе), а также другое финансовое или личное участие.

АВТОРСКОЕ ПРАВО

Редакция отбирает, готовит к публикации и публикует переданные Авторами материалы. Авторское право на конкретную статью принадлежит авторам статьи. Авторский гонорар за публикации статей в Журнале не выплачивается. Автор передает, а Редакция принимает авторские материалы на следующих условиях:

1) Редакции передается право на оформление, издание, передачу Журнала с опубликованным материалом Автора для целей реферирования статей из него в Реферативном журнале ВИНИТИ, РНИЦ и базах данных, распространение Журнала/авторских материалов в печатных и электронных изданиях, включая размещение на выбранных либо созданных Редакцией сайтах в сети Интернет в целях доступа к публикации в интерактивном режиме любого заинтересованного лица из любого места и в любое время, а также на распространение Журнала с опубликованным материалом Автора по подписке;
2) территория, на которой разрешается использовать авторский материал, — Российская Федерация и сеть Интернет;
3) срок действия Договора — 5 лет. По истечении указанного срока Редакция оставляет за собой, а Автор подтверждает бессрочное право Редакции на продолжение размещения авторского материала в сети Интернет;
4) Редакция вправе по своему усмотрению без каких-либо согласований с Автором заключать договоры и соглашения с третьими лицами, направленные на дополнительные меры по защите авторских и издательских прав;
5) Автор гарантирует, что использование Редакцией предоставленного им по настоящему Договору авторского материала не нарушит прав третьих лиц;
6) Автор оставляет за собой право использовать предоставленный по настоящему Договору авторский материал самостоятельно, передавать права на него по договору третьим лицам, если это не противоречит настоящему Договору;
7) Редакция предоставляет Автору возможность безвозмездного получения справки с электронными адресами его официальной публикации в сети Интернет;
8) при перепечатке статьи или ее части ссылка на первую публикацию в Журнале обязательна.

ПОРЯДОК АКЛЮЧЕНИЯ ДОГОВОРА И ИЗМЕНЕНИЯ ЕГО УСЛОВИЙ

Заключением Договора со стороны Редакции является опубликование рукописи данного Автора в журнале «Medicine and health care organization / Медицина и организация здравоохранения» и размещение его текста в сети Интернет. Заключением Договора со стороны Автора, т. е. полным и безоговорочным принятием Автором условий Договора, является передача Автором рукописи и экспертного заключения.

ОФОРМЛЕНИЕ РУКОПИСИ

Редакция журнала приветствует полностью двуязычные статьи.

Статья должна иметь (НА РУССКОМ И АНГЛИЙСКОМ ЯЗЫКАХ):

1. Заглавие (Title). Должно быть кратким (не более 120 знаков), точно отражающим содержание статьи.
2. Сведения об авторах (публикуются). Для каждого автора указываются: фамилия, имя и отчество, место работы, почтовый адрес места работы, e-mail, ORCID. Фамилии авторов рекомендуется транслитерировать так же, как в предыдущих публикациях или по системе BGN (Board of Geographic Names), см. сайт http://www.translit.ru.
3. Резюме (Summary) (1500–2000 знаков, или 200–250 слов) помещают перед текстом статьи. Резюме не требуется при публикации рецензий, отчетов о конференциях, информационных писем.

Авторское резюме к статье является основным источником информации в отечественных

и зарубежных информационных системах и базах данных, индексирующих журнал. Резюме доступно на сайте журнала «Medicine and health care organization / Медицина и организация здравоохранения» и индексируется сетевыми поисковыми системами. Из аннотации должна быть понятна суть исследования, нужно ли обращаться к полному тексту статьи для получения более подробной, интересующей его информации. Резюме должно излагать только существенные факты работы.

Рекомендуемая структура аннотации: введение (Background), цели и задачи (Purposes and tasks), методы (Materials and methods), результаты (Results), выводы (Conclusion). Предмет, тему, цель работы нужно указывать, если они не ясны из заглавия статьи; метод или методологию проведения работы целесообразно описывать, если они отличаются новизной или представляют интерес с точки зрения данной работы. Объем текста авторского резюме определяется содержанием публикации (объемом сведений, их научной ценностью и/или практическим значением) и должен быть в пределах 200–250 слов (1500–2000 знаков).

4. Ключевые слова (Key words) — от 3 до 10 ключевых слов или словосочетаний, которые будут способствовать правильному перекрестному индексированию статьи, помещаются под резюме с подзаголовком «ключевые слова». Используйте термины из списка медицинских предметных заголовков (Medical Subject Headings), приведенного в Index Medicus (если в этом списке еще отсутствуют подходящие обозначения для недавно введенных терминов, подберите наиболее близкие из имеющихся). Ключевые слова разделяются точкой с запятой.
5. Заголовки таблиц, подписи к рисункам, а также все тексты на рисунках и в таблицах должны быть на русском и английском языках.
6. Литература (References). Список литературы должен представлять полное библиографическое описание цитируемых работ в соответствии с NLM (National Library of Medicine) Author A.A., Author B.B., Author C.C. Title of article. Title of Journal. 2005;10(2):49–53. Фамилии и инициалы авторов в пристатейном списке приводятся в алфавитном порядке, сначала русского, затем латинского алфавита. В описании указываются ВСЕ авторы публикации. Библиографические ссылки в тексте статьи даются цифрой в квадратных скобках. Ссылки на неопубликованные работы не допускаются.

Книга: Автор(ы) название книги (знак точка) место издания (двоеточие) название издательства (знак точка с запятой) год издания.

Если в качестве автора книги выступает редактор, то после фамилии следует ред.

Преображенский Б.С., Темкин Я.С., Лихачев А.Г. Болезни уха, горла и носа. М.: Медицина; 1968.

Радзинский В.Е., ред. Перинеология: учебное пособие. М.: РУДН; 2008.

Brandenburg J.H., Ponti G.S., Worring A.F. eds. Vocal cord injection with autogenous fat. 3rd ed. NY: Mosby; 1998.

Глава из книги: Автор (ы) название главы (знак точка) В кн.: или In: далее описание книги [Автор (ы) название книги (знак точка) место издания (двоеточие) название издательства (знак точка с запятой) год издания] (двоеточие) стр. от и до.

Коробков Г.А. Темп речи. В кн.: Современные проблемы физиологии и патологии речи: сб. тр. Т. 23. М.; 1989: 107–11.

Статья из журнала

Автор (ы) название статьи (знак точка) название журнала (знак точка) год издания (знак точка с запятой) том (если есть в круглых скобках номер журнала) затем знак (двоеточие) страницы от и до.

Кирющенков А.П., Совчи М.Г., Иванова П. С. Поликистозные яичники. Акушерство и гинекология. 1994; N 1: 11–4.

Brandenburg J. H., Ponti G. S., Worring A. F. Vocal cord injection with autogenous fat: a long-term magnetic resona. Laryngoscope. 1996; l06 (2, pt l): 174–80.

Тезисы докладов, материалы научных конф.

Бабий А.И., Левашов М.М. Новый алгоритм нахождения кульминации экспериментального нистагма (миниметрия). III съезд оториноларингологов Респ. Беларусь: тез. докл. Минск; 1992: 68–70.

Салов И.А., Маринушкин Д.Н. Акушерская тактика при внутриутробной гибели плода. В кн.: Материалы IV Российского форума «Мать и дитя». М.; 2000; ч. 1: 516–9.

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Петров С.М. Время реакции и слуховая адаптация в норме и при периферических поражениях слуха. Автореф. дис… канд. мед. наук. СПб.; 1993.

Описание интернет-ресурса

Щеглов И. Насколько велика роль микрофлоры в биологии вида-хозяина? Живые системы: научный электронный журнал. Доступен по: http://www.biorf.ru/catalog.aspx?cat_id=396&d_no=3576 (дата обращения 02.07.2012).

Kealy M.A., Small R.E., Liamputtong P. Recovery after caesarean birth: a qualitative study of women's accounts in Victoria, Australia. BMC Pregnancy and Childbirth. 2010. Available at: http://www.biomedcentral.com/1471–2393/10/47/. (accessed 11.09.2013).

Для всех статей, имеющих DOI, индекс необходимо указывать в конце библиографического описания.

По новым правилам, учитывающим требования международных систем цитирования, библиографические списки (References) входят в англоязычный блок статьи и, соответственно, должны даваться не только на языке оригинала, но и в латинице (романским алфавитом). Поэтому авторы статей должны давать список литературы в двух вариантах: один на языке оригинала (русскоязычные источники кириллицей, англоязычные латиницей), как было принято ранее, и отдельным блоком тот же список литературы (References) в романском алфавите для Scopus и других международных баз данных, повторяя в нем все источники литературы, независимо от того, имеются ли среди них иностранные. Если в списке есть ссылки на иностранные публикации, они полностью повторяются в списке, готовящемся в романском алфавите.

В романском алфавите для русскоязычных источников требуется следующая структура библиографической ссылки: автор(ы) (транслитерация), перевод названия книги или статьи на английский язык, название источника (транслитерация), выходные данные в цифровом формате, указание на язык статьи в скобках (in Russian).

Технология подготовки ссылок с использованием системы автоматической транслитерации и переводчика.

На сайте http://www.translit.ru можно бесплатно воспользоваться программой транслитерации русского текста в латиницу. Программа очень простая.

1. Входим в программу Translit.ru. В окошке «варианты» выбираем систему транслитерации BGN (Board of Geographic Names). Вставляем в специальное поле весь текст библиографии на русском языке и нажимаем кнопку «в транслит».
2. Копируем транслитерированный текст в готовящийся список References.
3. Переводим с помощью автоматического переводчика название книги, статьи, постановления и т.д. на английский язык, переносим его в готовящийся список. Перевод, безусловно, требует редактирования, поэтому данную часть необходимо готовить человеку, понимающему английский язык.
4. Объединяем описания в соответствии с принятыми правилами и редактируем список.
5. В конце ссылки в круглых скобках указывается (in Russian). Ссылка готова.

Примеры транслитерации русскоязычных источников литературы для англоязычного блока статьи

Книга: Avtor (y) Nazvanie knigi (znak tochka) [The title of the book in english] (znak tochka) Mesto izdaniya (dvoetochie) Nazvanie izdatel'stva (znak tochka s zapyatoy) god izdaniya.

Preobrazhenskiy B. S., Temkin Ya. S., Likhachev A. G. Bolezni ukha, gorla i nosa. [Diseases of the ear, nose and throat]. M.: Meditsina; 1968. (in Russian).

Radzinskiy V. E., ed. Perioneologiya: uchebnoe posobie. [Perineology tutorial]. M.: RUDN; 2008. (in Russian).

Глава из книги: Avtor (y) Nazvanie glavy (znak tochka) [The title of the article in english] (znak tochka) In: Avtor (y) Nazvanie knigi (znak tochka) Mesto izdaniya (dvoetochie) Nazvanie izdatel'stva (znak tochka s zapyatoy) god izdaniya]. (dvoetochie) stranisi ot i do.

Korobkov G. A. Temp rechi. [Rate of speech]. In.: Sovremennye problemy fiziologii i patologii rechi: sb. tr. T. 23. M.; 1989: 107–11. (in Russian).

Статья из журнала: Avtor (y) Nazvanie stat'I (znak tochka) [The title of the article in english] (znak tochka) Nazvanie zhurnala (znak tochka) god izdaniya (znak tochka s zapyatoy) tom (esli est' v kruglykh skobkakh nomer zhurnala) zatem (znak dvoetochie) stranitsy ot i do.

Kiryushchenkov A. P., Sovchi M. G., Ivanova P. S. Polikistoznye yaichniki. [Polycystic ovary]. Akusherstvo i ginekologiya. 1994; N 1: 11–4. (in Russian).

Тезисы докладов, материалы научных конф.

Babiy A. I., Levashov M. M. Novyy algoritm nakhozhdeniya kul'minatsii eksperimental'nogo nistagma (minimetriya). [New algorithm of finding of the culmination experimental nystagmus (minimetriya)]. III s'ezd otorinolaringologov Resp. Belarus': tez. dokl. Minsk; 1992: 68–70. (in Russian).

Salov I. A., Marinushkin D. N. Akusherskaya taktika pri vnutriutrobnoy gibeli ploda. [Obstetric tactics in intrauterine fetal death]. In: Materialy IV Rossiyskogo foruma «Mat' i ditya». M.; 2000; ch.1:516–9. (in Russian).

Авторефераты

Petrov S. M. Vremya reaktsii i slukhovaya adaptatsiya v norme i pri perifericheskikh porazheniyakh slukha. [Time of reaction and acous-

tical adaptation in norm and at peripheral defeats of hearing]. PhD thesis. SPb.; 1993. (in Russian).

Описание интернет-ресурса

Shcheglov I. Naskol'ko velika rol' mikroflory v biologii vida-khozyaina? [How great is the microflora role in type-owner biology?]. Zhivye sistemy: nauchnyy elektronnyy zhurnal. Available at: http://www.biorf.ru/catalog.aspx?cat_id=396&d_no=3576 (accessed 02.07.2012). (in Russian).

ОТВЕТСТВЕННОСТЬ ЗА ПРАВИЛЬНОСТЬ БИБЛИОГРАФИЧЕСКИХ ДАННЫХ НЕСЕТ АВТОР.

Остальные материалы предоставляются либо на русском, либо на английском языке, либо на обоих языках по желанию.

Структура основного текста статьи.

Введение, изложение основного материала, заключение, литература. Для оригинальных исследований — введение, методика, результаты исследования, обсуждение результатов, литература.

В разделе «методика» обязательно указываются сведения о статистической обработке экспериментального или клинического материала. Единицы измерения даются в соответствии с Международной системой единиц — СИ. Фамилии иностранных авторов, цитируемые в тексте рукописи, приводятся в оригинальной транскрипции.

В конце каждой статьи обязательно указываются вклад авторов в написание статьи, источники финансирования (если имеются), отсутствие конфликта интересов, наличие согласия на публикацию со стороны пациентов.

Объем рукописей.

Объем рукописи обзора не должен превышать 25 стр. машинописного текста через два интервала, 12 кеглем (включая таблицы, список литературы, подписи к рисункам и резюме на английском языке), поля не менее 25 мм. Нумеруйте страницы последовательно, начиная с титульной. Объем рукописи статьи экспериментального характера не должен превышать 15 стр. машинописного текста; кратких сообщений (писем в редакцию) — 7 стр.; отчетов о конференциях — 3 стр.; рецензий на книги — 3 стр. Используйте колонтитул — сокращенный заголовок и нумерацию страниц, для помещения вверху или внизу всех страниц статьи.

Иллюстрации и таблицы. Число рисунков рекомендуется не более 5. В подписях под рисунками должны быть сделаны объяснения значений всех кривых, букв, цифр и прочих условных обозначений. Все графы в таблицах должны иметь заголовки. Повторять одни и те же данные в тексте, на рисунках и в таблицах не следует. Рисунки, схемы, фотографии должны быть представлены в расчете на печать в черно-белом виде или уровнями серого в точечных форматах tif, bmp (300–600 dpi), или в векторных форматах pdf, ai, eps, cdr. При оформлении графических материалов учитывайте размеры печатного поля Журнала (ширина иллюстрации в одну колонку — 90 мм, в 2 — 180 мм). Масштаб 1:1.

РЕЦЕНЗИРОВАНИЕ

Статьи, поступившие в редакцию, обязательно рецензируются. Если у рецензента возникают вопросы, то статья с комментариями рецензента возвращается Автору. Датой поступления статьи считается дата получения Редакцией окончательного варианта статьи. Редакция оставляет за собой право внесения редакторских изменений в текст, не искажающих смысла статьи (литературная и технологическая правка).

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Сайт журнала: http://www.gpmu.org/science/pediatrics-magazine/Medicine_organization.