ORGANIZATION OF HEALTHCARE, MEDICAL SCIENCE AND EDUCATION

T.K. Davydova, A.N. Romanova, N.V. Savvina, N.A. Schneider

IMPLEMENTATION STAGES OF THE COMPLEX PROGRAM OF THE YAKUT SCIENTIFIC CENTER FOR COMPLEX MEDICAL PROBLEMS ON IMPROVING THE MODEL OF SPECIALIZED MEDICAL CARE FOR PATIENTS WITH NEURODEGENERATIVE DISEASES IN THE REPUBLIC OF SAKHA (YAKUTIA)

DOI 10.25789/YMJ.2022.79.11

УДК 614.2

Neurodegenerative diseases (NDD) are one of the most important medical and social problems of modern society, as they are characterized by a continuously progressive course, severe disability of patients and the absence, in the vast majority of cases, of etiotropic methods of treatment. A significant part of the diseases in this group is age-dependent and develops mainly in the elderly and senile age. The absence in the Republic of Sakha (Yakutia) (RS (Y) of a round-the-clock specialized hospital for the provision of medical care (MC) for patients with NDD is an urgent problem of regional healthcare. To date, the epidemiological situation of NDD in the RS (Y) remains insufficiently studied, despite The fact that the list of NDD under the code ICD-10 "G10-G37" is very wide and, according to annual reports, accounts for 75% of primary diseases of the nervous system. The article presents a comprehensive scientific program developed at the Federal State Budgetary Scientific Institution "Yakutsk Scientific Center for Complex Medical Problems" (FBSI YSC CMP). The program is aimed at improving and improving the existing model for providing specialized medical care to patients with neurodegenerative diseases (NDD) in the Republic of Sakha (Yakutia) (RS (Y). The comprehensive program included 5 consecutive stages that made it possible to open on the basis of the Clinic of YSC KMP Center for Neurodegeneration diseases (CNDZ), in which patients can receive both outpatient and inpatient care. This improved organizational model for the provision of specialized medical care to patients with NDD in the Republic of Sakha (Yakutia) was created as a result of the integration of a medical research institution and regional health authorities.

Keywords: neurodegenerative diseases (NDD), Parkinson's disease (PD), Alzheimer's disease (AD), spinocerebellar ataxia (SCA), specialized medical care.

Introduction. Currently, one of the urgent problems of healthcare and social protection in Russia and the Republic of Sakha (Yakutia) is the issue of providing medical and social assistance to patients with NDDs at the outpatient hospital stage. Due to the severity of their condition, patients with NDDs belong to the group of the most difficult patients who are limited in receiving adequate medical care. The provision of high-quality medical and social care to patients with NDDs has its own defining features and requires the improvement of specialized care. It is known that neurodegenerative diseases (NDDs) are age-dependent and affect people of the older age group. For most of these diseases, the etiology and pathogenesis remain unclear, despite many years of scientific research in the world [2,3, 8]. According to the UN, the population aged 60 years and older in 1960-2000 increased by more than 2 times and amounted to 900 million people, and by 2025 it will reach 2 billion and make up 20-30% of the total

population. According to these forecasts, by 2050, persons of older age groups will amount to 5-6 billion people, or 50% of the total population [5]. In Fig. 1 and Fig. 2 it can be seen that life expectancy continues to increase (Rosstat 2021), despite the decline in life expectancy in 2020, associated with an increase in mortality among the elderly due to the COVID-19 pandemic. This suggests that the incidence of age-dependent diseases, including NDDs, will grow both in Russia as a whole and in the Republic in particular. Thus, the provision of specialized care at the outpatient and hospital stages will be one of the most important healthcare tasks.

Features of the organization of specialized medical care (SMC). In the Republic, the percentage of NDDs is relatively high among all diseases of the nervous system [7]. The most studied are spinocerebellar ataxia (SCA) type 1, oculopharyngeal myodystrophy (OPMD) [4], Charcot-Marie-Toute disease (CMT) [6], Parkinson's disease (PD) [8], amyotrophic lateral sclerosis (ALS) [1]. Yakutia is the territory with the highest prevalence of type 1 SCA in the world - 34.4 cases per 100 thousand population [10]. The situation of Alzheimer's disease remains unresearched, which ranks 1st in the world among NDDs [9], as well as various genetic and inherited diseases of the nervous system common in Yakutia.

Patients with NDDs are practically deprived of medical care at the outpatient stage due to social maladaptation because they have problems with motor and speech activity, as well as impaired cognitive functions. The lack of specialized round-the-clock hospitals for patients with NDDs makes inpatient medical care impossible for this category of patients. In addition, this problem is interdisciplinary in nature, since NDDs cause not only nervous system disorders, but also disorders from other body systems, entailing violations of vital functions. All of the above requires the organization of a set of mea-

DAVYDOVA Tatiana Kimovna – Ph.D, Leading Researcher, FBSI Yakut Scientific Center of Complex Medical Problems, tanya.davydova.56@inbox.ru, ORCID ID: 0000-0001-9525-1512; **ROMANOVA Anna Nikolayevna** – MD, head of FBSI Yakut Scientific Center of Complex Medical Problems, ORCID ID: J-9695-2017; **SAVVINA Nadezhda Valeryevna** – MD, Department of Medical Institute NEFU them. M.K. Ammosova, t. Yakutsk, ORCID ID: 0000-0003-2441-6193; **SCHNEIDER Natalia Alekseevna** – MD, visiting research fellow, Institute of Personalized Psychiatry and Neurology FSBI V.M. Bekhterev National Medical Research Center of Psychiatry and Neurology, St. Petersburg, ORCID ID: 0000-0002-2840-837X.

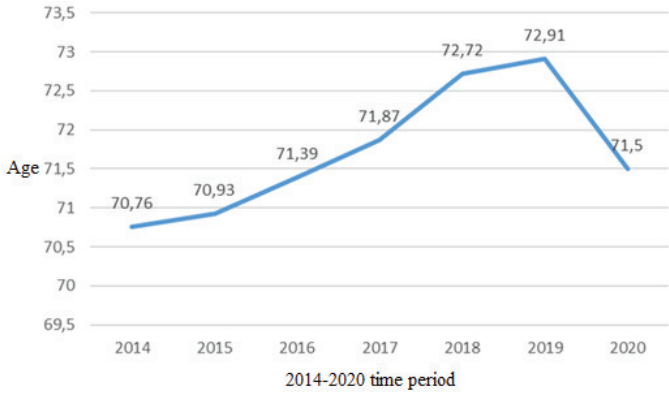

Fig.1. Life expectancy in the Russian Federation (Rosstat 2021)

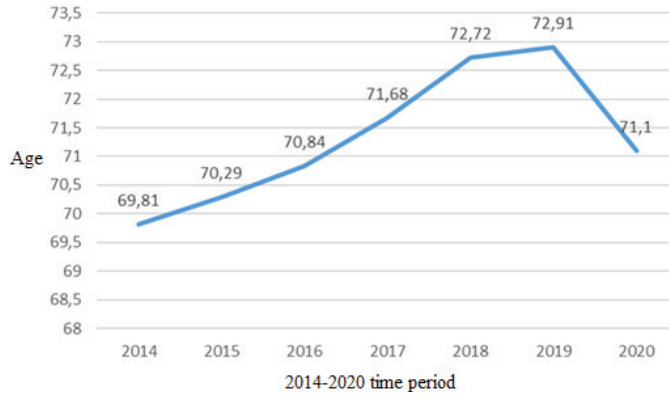

Fig.2. Life expectancy in the Republic of Sakha (Yakutia) (Rosstat 2021)

sures in the field of practical health care and social services for citizens.

Ways to solve the provision of specialized medical care. In Russia, there are examples of the opening of centers for the provision of specialized medical care to patients with NDDs in the system of the Ministry of Science and Higher Education, namely in scientific institutions that have medical clinics in which both medical care at the outpatient hospital stage and scientific research are carried out in parallel.

For example, specialized and high-tech medical care for patients with neurodegenerative diseases in Russia is provided by the Scientific Center of Neurology (SCN), Moscow [11], the N.P. Bekhtereva Institute of the Human Brain (IHB RAS), St. Petersburg [1 2]. In this article, we want to present a joint solution to this problem by the forces of a federal scientific institution - the Yakut Scientific Center for Complex Medical Problems (YSC CMP) and the Ministry of Health (MOH) of the Republic of Sakha (Yakutia). Consolidation of medical science and regional healthcare will allow solving existing problems both in the organization of SMC for patients with NDDs in the Republic and in scientific research of NDDs.

Materials and methods of research. For the organization of the Center for Neurodegenerative Diseases (CND) in the Clinic of the YSC CMP, a comprehensive program was prepared, which consisted of the following stages:

1. Analysis of the initial organizational model of neurological care for patients with neurodegenerative diseases in the Republic;
2. Studying the database of the YSC CMP Clinic to determine the potential possibilities of opening a CND;
3. Definition of the structure of the CND;
4. To propose an improved model for the organization of specialized medical care for patients with neurodegenerative diseases at the Board of the Ministry of Health of the Republic;
5. To coordinate the opening of the CND with the Ministry of Health of the Republic and to prepare an order on the procedure for routing patients with NDDs according to the "neurology" profile at the outpatient hospital stage in the CND;

The materials for this study were the register of patients with SCA 1 and ALS, report data of district neurologists from 2016-2018, regulatory documents of the Ministry of Health of the Russian Federation and the Republic.

Clinical, comparative analysis and organizational modeling methods were used for the study. The clinical method included the study of the register of patients with SCA 1 and ALS, reports of district neurologists of the republic on other NDDs, and this method was also used to determine the list of diseases and criteria for selecting patients for hospitalization in the newly created neurological department of the CND. The method of comparative analysis and organizational modeling included the study of the initial organizational structure of the provision of MP to patients with NDZ and the proposed improved model, as well as the study of the base of the YANC KMP Clinic, on which it was planned to organize the NDZ Center, as a new organizational model for the provision of specialized care to patients with NDZ.

Results and discussion. At the *first stage* of the program, the initial organizational structure of providing medical care to patients with NDDs was studied, which revealed a number of shortcomings of both outpatient and inpatient specialized medical care.

Outpatient specialized medical care. In the Republic, for outpatient specialized care, patients can apply to municipal clinics and the Medical and Genetic Center (MGC) of the Republican Hospital

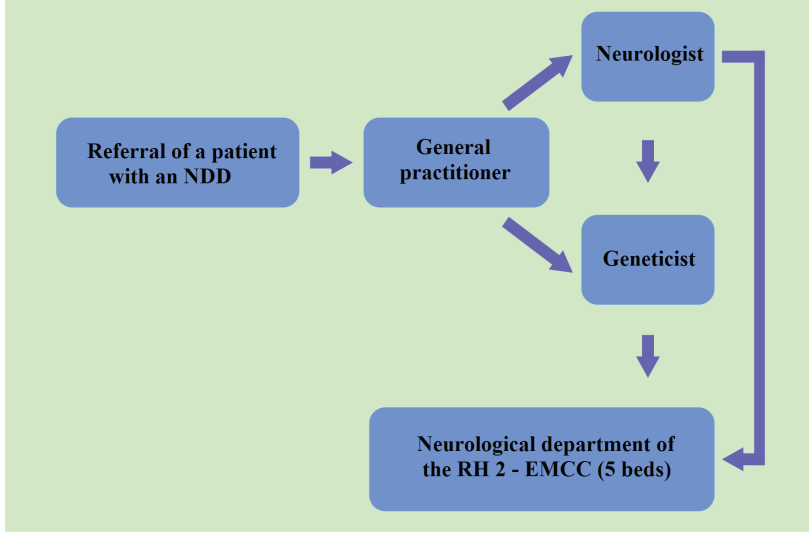

Fig.3. The scheme of organization of specialized medical care for patients with neurodegenerative pathology before the opening of the CND in the Clinic of the YSC CMP

Num. 1. Patients are referred to the neurologist of the clinic through their GP and specialists in the order of the general queue, repeat referrals and those who are on the register of patients with NDDs can apply immediately, bypassing these specialists. In the MGC, patients with NDDs are referred by a neurologist or GP. But due to specific neurodegenerative processes leading to motor and cognitive disorders, disorders of the psycho-emotional sphere, this category of patients cannot receive sufficient assistance at the outpatient stage, since they require a long examination by a neurologist at reception and to receive the prescribed treatment on an outpatient basis is a difficult task for many patients. Despite the fact that by the order of the Ministry of Health of the Russian Federation in 2015, the time for outpatient admission by a neurologist of one patient was increased to 22 minutes, still this time is not enough to process a patient with NDDs, which affects the quality of the patient's examination by a neurologist and the establishment of a preliminary diagnosis [1].

Inpatient specialized medical care. In the Republic, there are 2 neurological hospitals in the healthcare system for round–the-clock stay, which are based in the Republican Hospital Num. 2 - Emergency Medical Care Center (RH No. 2-EMCC):

1. Neurological department for patients with acute disorders of cerebral circulation in the Regional Vascular Center (RCC) with 50 beds;

2. Department of General Neurology with 30 beds for emergency care of neurological patients, of which 5 beds are allocated for patients with NDDs for the entire Republic.

Patients with severe pain syndromes, seizures, acute inflammatory diseases of the nervous system, exacerbations of demyelinating diseases and other urgent conditions. The available 5 beds in the neurological department of RH No. 2-EMCC for patients with NDDs cannot cover the needs for inpatient care throughout the Republic.

The study of annual reports of neurologists showed not only the lack of data on the primary incidence of such diseases as Alzheimer's disease and other dementias, many hereditary diseases, including SCA1, myotonic dystrophy, OPMD, hereditary spastic paraplegia, dystonia, ALS and other diseases. There is no data on the amount of assistance provided (the number of requests per year, treatment in a hospital or at home, data on hospitalization). The severity of the condition of patients with NDDs is an undoubted obstacle to visiting outpatient clinics.

Thus, in the Republic, if patients with NDDs have the opportunity to receive medical care at the outpatient stage, although not in full, then the absence of round-the-clock hospitals for rehabilitation or rehabilitation treatment deprives them of receiving medical care at the hospital stage. Taking into account the current situation, it became clear that there was a need to improve the existing organizational model for providing neurological care to patients with NDDs.

At the *second stage* of the comprehensive program, the base of the YSC CMP Clinic was investigated in order to identify the real possibilities of creating a CND. Not only the material and technical base was studied, but also personnel issues and issues of financing this category of patients from the funds of the Territorial Compulsory Medical Insurance Fund (TCMIF) were considered. It is known that medical organizations have single-channel funding from TCMIF funds. The YSC CMP clinic occupies the 1st and 2nd floors of a 4-storey building of a typical dormitory. The 1st floor is reserved for the clinic, and the 2nd floor is occupied by a round-the-clock hospital with 110 beds, including (at the time of the study) a therapeutic department with 40 beds, of which 10 are neurological, a gynecological department with 25 beds, a cardiology department with 35 beds. The Clinic has a physiotherapy department, a clinical diagnostic laboratory that serves the clinic and the hospital. In addition, the structure of the YSC CMP includes the department of medical genetics, which includes a laboratory of hereditary pathology. MRI and radiation diagnostics in the Clinic are carried out through the bilateral agreements with medical organizations that have this equipment. In general, if there is space to accommodate the proposed center for patients with NDDs, this issue could be successfully solved.

When analyzing the amount of funding for the Clinic from the funds of the TCMIF, the administration of the YSC CMP found effective ways to solve the release of funds and direct them to solving strategic tasks for the further development of the YSC CMP Clinic. Firstly, it was decided to shut down the hospital's kitchen and turn to outsourcing services for catering for patients. Secondly, the unprofitable bed fund of gynecological and cardiological departments was revealed. This was due to the fact that in the Republic in 2011, within the framework of the National Project "Health", a Regional Vascular Center (RVC) was opened on the basis of the RH No.2-EMCC equipped with the most modern equipment, designed to provide specialized high-tech round-the-clock medical care to patients with acute disorders of cerebral circulation (ADCC) and acute coronary syndrome (ACS). Thus, patients with chronic ischemic heart disease, hypertension and other diseases of the heart and blood vessels, which belong to the "therapy" profile during hospitalization, began to enter the cardiology department of the YSC CMP Clinic, excluding patients with ACS. In addition, in Yakutsk, in March 2018, the Republican Perinatal Center (RPC) opened with a 130-bed hospital (department of pregnancy pathology, obstetric physiology department, maternity department, department of pathology of newborns and premature babies), a consultative and diagnostic department for 150 visits per shift, a department of intensive care and intensive care for women and newborns, as well as the department of catamnesis for young children, etc. The opening of the RPC also affected the unprofitability of the beds of the gynecological department of the YSC CMP Clinic. Meanwhile, the main part of the group of orphan diseases of the nervous system consists of hereditary diseases leading to neurodegeneration of the nervous system, which, due to the severity of the course, expensive treatment and examination, are among the highly paid clinical and statistical groups (CSG) in the CHI system. At the same time, due to the lack of a round-the-clock hospital for patients with NDDs, this category of patients was deprived of specialized medical care.

The above objective reasons led to the decision to reduce the gynecological department and 25 beds of the cardiology department due to their unprofitability and placement of the CND in their place.

The third stage of the comprehensive program was to determine the structure of the Central Hospital as a module that would include both outpatient and inpatient care. Therefore, it was decided to allocate a separate block on one floor for the CND. The structure of the Central Clinical Hospital includes a cognitive disorders room, a bioethics and medical and social care room and a round-the-clock hospital of the neurological department. An essential role is played by the location of these offices and the hospital on the same floor, which is important for patients with limited mobility. As a result of such an arrangement, the CND would be an integral section, isolated from other Clinic premises.

The CND is the main link in our pro-

posed improved organizational model of specialized medical care (IOMSMC) for patients with NDDs and represents a single unit of specialized care, where all stages of the provision of medical care are interconnected.

[1] Order of the Ministry of Health of the Russian Federation of June 2, 2015 N 290n

At the fourth and fifth stages of the program, joint work was carried out with the Ministry of Health of the Republic and the Republican TCMIF to clarify the amount of funding for neurological beds. The functional structure of the CND was presented by us at the Board of the Ministry of Health of the Republic in December 2018. Considering that the neurological department will serve patients from all over the Republic and for its full functioning, at the Board of the Ministry of Health of the Republic, it was recommended to draft an order on the routing of patients suffering from NDDs. Thus, based on the Decree of the Head of the Republic of 27.12.2016 [2]. "On approval of the regulations of the Ministry of Health and its Board" and pursuant to the order of the Ministry of Health of the Russian Federation [3], the order of the Ministry of Health of the Republic "On the procedure for routing neurological patients suffering from neurodegenerative diseases at the outpatient and hospital stages"[4] was drawn up and approved, in which 15 beds out of 30 are provided for general neurological patients profile who need planned restorative treatment. The above-issued order of the Ministry of Health of the RS (Ya) makes it possible to gradually concentrate data on patients with neurodegenerative pathology in one medical organization, which makes it possible to create a single database of NDDs, track new cases, consult patients and maintain direct communication with neurologists of central district hospitals using modern gadgets and telemedicine advisory assistance. The data of the created hospital registers will also allow providing rehabilitation to patients in need, monitoring their condition in dynamics, identifying the features of the clinical picture, tracking families with genetic diseases. Based on this knowledge, an assessment of the current state of the epidemiological situation of NDDs in the regions of the Republic and prospects for the development of early (preclinical) diagnostics will be given, approaches to personalized treatment of NDDs, primarily Parkinson's disease, Alzheimer's disease and type 1 SCA will be developed.

The moral and ethical side of this problem is also an important factor, since the introduction into the practice of healthcare of this order on the routing procedure and the creation of the CND, in fact shows that there is a search in solving the tasks of providing SMC to this category of patients, which will make them feel like full-fledged members of society, improving their quality of life.

Fig.5 Model of the organization of specialized medical care for patients with neurodegenerative pathology after the opening of the CND in the Clinic of the YSC CMP

Conclusion. Thus, the opening of a specialized center for patients with NDDs is an example of the consolidated interaction of a federal scientific medical institution and regional healthcare in solving a medical and social problem.

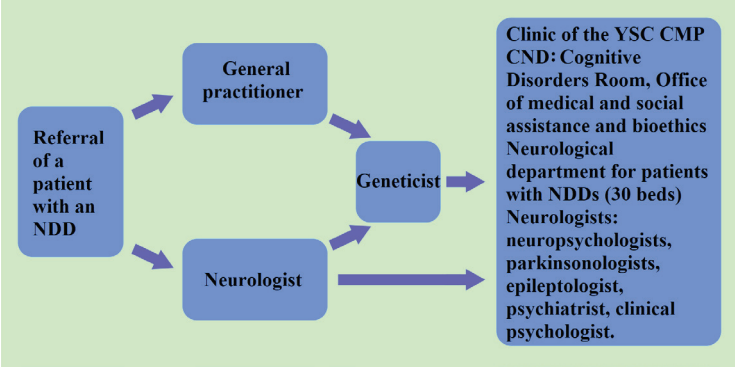

Fig.4. Structure of the Center for Neurodegenerative Diseases of the YSC CMP Clinic

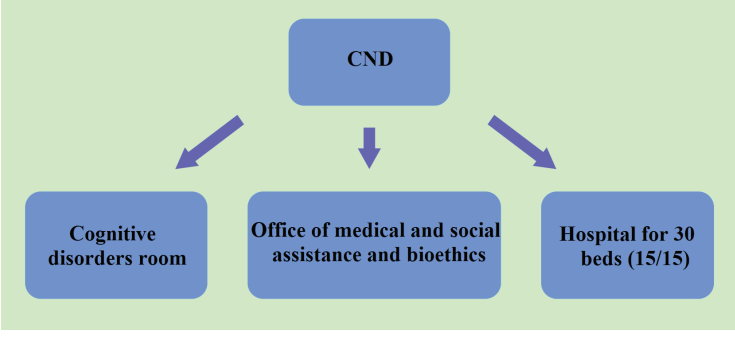

Fig.5. Model of the organization of specialized medical care for patients with neurodegenerative pathology after the opening of the CND in the Clinic of the YSC CMP

[2] Decree of the Head of the Republic of 27.12.2016. "On approval of the Regulations of the Ministry of Health and its Board" (Appendix 1, paragraphs 3.11, 3.19, 3.20)

[3] Order of the Ministry of Health of the Russian Federation3 dated 15.11.2011 No. 926n "On approval of the Procedure for providing medical care to adults with diseases of the nervous system"

[4] Order of the Ministry of Health of the Republic No. 01-07/184 dated 02/14/2019. "On the procedure for routing neurological patients suffering from neurodegenerative diseases at the outpatient and inpatient stages"

Reference

1. Davydova TK. Sporadicheskij bokovoj amiotroficheskij skleroz v Respublike Saha (YAkutiya). [Sporadic amyotrophic lateral sclerosis in the Republic of Sakha (Yakutia)]. Vestnik SVFU [Bulletin of NEFU. 2015; 2 (12): 119-123 (In Russ.).]

2. Illarioshkin SN, Vlasenko AG, Fedotova E.Yu. Sovremennye vozmozhnosti identifikacii latentnoj stadii nejrodegenerativnogo processa [Modern possibilities of identifying the latent stage of the neurodegenerative process]. Annaly klinicheskoj i eksperimental'noj nevrologii [Annals of Clinical and Experimental Neurology]. 2013; 2 (7): 39–50 (In Russ.).]

3. Levin OS, Dokadina LV. Epidemiologiya parkinsonizma i bolezni Parkinsona [Epidemiology of parkinsonism and Parkinson's disease]. Nevrologicheskij zhurnal [Neurological journal. 2005. No. 5. P. 41–49 (In Russ.).]

4. Sukhomyasova A.L. Autosomno-dominantnaya miotonicheskaya distrofiya v Respublike Saha (YAkutiya): avtoref. dis.kand.med.nauk [Autosomal dominant myotonic dystrophy in the Republic of Sakha (Yakutia): diss. abst. candidate of Med. Science. Tomsk; 2005. 22 p (In Russ.).]

5. Gitinova Z.A., Magomedov R.G., Aliev A.K., Shamsudinov R.S. K ocenke ambulatorno-poliklinicheskoj pomoshchi licam pozhilogo i starcheskogo vozrasta [To the assessment of outpatient care for the elderly and senile age]. Problemy social'noj gigieny, zdravoohraneniya i istorii mediciny [Problems of social hygiene, public health and the history of medicine]. 2017; 25(2): 101-103 (In Russ.).] DOI 10.18821/0869-866X-2017-25-2-101-103]

6. Guryeva PI, Maksimova NR, Nikolaeva TYa, Gurinova EE, Korotov MN, Stepanova SK, Sukhomyasova AL, Okoneshnikova LT.

Kliniko-geneticheskaya harakteristika bolezni SHarko-Mari-Tuta 1A tipa v Respublike Saha (YAkutiya) [Clinical and genetic characteristics of Charcot-Marie-Tut disease type 1A in the Republic of Sakha (Yakutia)]. Yakut Medical Journal. 2013; 3 (43): 26-29.

7. Nikolaeva IA, Korotov M.N., Gurinova E.E., Stepanova S.K. et al. Nasledstvennye bolezni nervnoj sistemy v RS (YA) [Hereditary diseases of the nervous system in the Republic of Sakha (Yakutia)]. Yakut Medical Journal. 2009; 2 (26): 52-54.

8. Popova TE, Tappakhov AA, Nikolaeva TYa, Okoneshnikova LT, et al. Epidemiologiya bolezni Parkinsona v Respublike Saha (YAkutiya) [Epidemiology of Parkinson's disease in the Republic of Sakha (Yakutia)] Yakut Medical Journal. 2017; 3 (59): 98-101

9. Platonov F.A. Tyryshkin K, Tikhonov D.G. [et al.] Genetic fitness and selection intensity in a population affected with high-incidence spinocerebellar ataxia type 1. Neurogenetics. 2016; 17(3): 179-185. doi: 10.1007/s10048-016-0481-5.

10. Lane CA, Hardy J, Schott JM. Alzheimer's disease. Eur J Neurol Review. 2018; 25 (1): 59-70. DOI: 10.1111 / ene.13439. Epub 2017 Oct 19.

11.https://www.neurology.ru/

12.https://ihb.spb.ru/

N.A. Chulakova, A.F. Potapov, K.V. Chulakov, A.A. Ivanova

CHARACTERISTICS AND RESULTS OF THE SPECIALIZED ANESTHESIOLOGY AND INTENSIVE CARE FOR PATIENTS WITH COVID-19 IN THE REPUBLIC OF SAKHA (YAKUTIA)

DOI 10.25789/YMJ.2022.79.12

УДК 615:616.9 (571.56)

Aim: To analyze the work in the specialized anesthesiology and intensive care unit in the Republic of Sakha (Yakutia) for patients with COVID-19 in the context of the pandemic.

Materials and methods: A retrospective observational study was conducted based on work perfomed by anesthesiology and intensive care unit (AICU) in the State Budgetary Institution of the Republic of Sakha (Yakutia) "Yakut Republican Clinical Hospital" (YRCH) for the period since March, 2020, to December, 2021.

Results and discussion: YRCH have repurposed the hospital beds and enhanced the material and technical equipment supply of the AICU. Given the epidemiological situation, the bed capacity and the staff schedule of the unit were in the scope of regulation. The medical staff level was 76.5 % in 2020 and 80 % in 2021. The level of nursing and medical attendant staff for the entire period was 100 %.

During the study period 1,796 patients were admitted (488 patients in 2020, 1,308 patients in 2021). The bed turnover was 24.4 and 28.2 patients per bed, the average rate of bed occupancy was 136 and 244.6 days, the average length of stay of patients was 5.5 and 6.0 days in 2020 and 2021, respectively. In total, 1,015 patients have died (mortality rate – 56.5 %), with 281 patients to have died in 2020 (mortality rate — 58.0 %) and 734 in 2021 (mortality rate — 56.2 %). The mortality rate of patients significantly increases with age and amounted to 71.2 % in patients older than 81 years.

The main cause for admission in AICU was acute respiratory failure (ARF), the treatment has used is stepwise respiratory therapy. Standard oxygen therapy (15-20 l/min) was effective in 64 (3.6 %) patients, high-flow oxygen therapy (HFOT) was used in 1,732 (96.4 %) patients, non-invasive mechanical ventilation (NIV) was used in 717 (39.9 %), invasive mechanical ventilation was used in 1,015 (56.5 %) patients.

Conclusion: The complex of measures for the deployment of specialized anesthesiology and intensive care for adults with COVID-19 in the YRCH has allowed to succeed with an overflow of patients suffering a severe course of the disease. The characteristics of the unit indicated the difficulties in managing patients with COVID-19 complicated by viral pneumonia with severe ARF.

Keywords: COVID-19, specialized anesthesiology and intensive care, Republic of Sakha (Yakutia).

CHULAKOVA Nadezhda Alexandrovna – 3-year postgraduate student of the Department of Anesthesiology, Resuscitation and Intensive Care with the course of Emergency Medicine of the Faculty of Postgraduate Training of Doctors of the Medical Institute of the Federal State Autonomous Educational Institution for Higher Education M.K. Ammosov Northeastern Federal University, email: chulakovan@list.ru; **POTAPOV Alexander Filippovich** – MD, Associate Professor, Head of the Department of Anesthesiology, Resuscitation and Intensive Care with a course of Emergency Medicine of the Faculty of Postgraduate Training of Doctors of the Medical Institute of the Federal State Autonomous Educational Institution for Higher Education M.K. Ammosov Northeastern Federal University Northeastern Federal University, email: potapov-paf@mail.ru; **CHULAKOV Kirill Viktorovich** – head of Anesthesiology and Intensive Care Unit of the Yakut Republican Clinical Hospital, email: wor1d@rambler.ru; **IVANOVA Albina Ammosovna** – MD, Associate Professor, Professor of Department of Anesthesiology, Resuscitation and Intensive Care with the course of Emergency Medicine of the Faculty of Postgraduate Training of Doctors of the Medical Institute of the Federal State Autonomous Educational Institution for Higher Education M.K. Ammosov Northeastern Federal University, email: iaa_60@mail.ru; +7(924)762-29-16.

Introduction. The rapid spread of the novel coronavirus infection (NCVI) COVID-19, the severe course of the disease and the high mortality rate of patients led to the mobilization of all levels o health care.

In the Republic of Sakha (Yakutia) a plan for organizing medical care for patients with COVID-19 was developed and a three-level medical care system was deployed [4]. The main role for the organization and provision of specialized care for patients with COVID-19 was assigned to the State Budgetary Institution of the Republic of Sakha (Yakutia) "Yakut Republican Clinical Hospital" (YRCH) which included an infectious disease department.

The high level of extremely severe and complicated forms of the disease, the rapid progression of acute respiratory failure (ARF) demanding the use of active respiratory therapy required the anesthesiology and intensive care services of medical organizations to carry out a complex of organizational and therapeutic-tactical measures.

Purpose of the study: Analyze of the work of the specialized anesthesiology and intensive care unit in the Republic of Sakha (Yakutia) for patients with COVID-19 in the context of the pandemic.

Materials and Methods: A retrospective observational study was conducted based on work performed by anesthe-