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ORGANIZATION OF HEALTH, MEDICAL SCIENCE AND EDUCATION

T.K. Davydova, A.N. Romanova, O.V. Tatarinova, T.Ya. Nikolaeva

PROVISION OF SPECIALIZED MEDICAL CARE IN THE REPUBLIC OF SAKHA (YAKUTIA) TO PATIENTS WITH COGNITIVE DISORDERS

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UDC 616.711.8-006.2-089

The article presents an analysis of statistical data on dementia from official sources of state statistics, medical and scientific organizations, as well as the provision of specialized medical care in the Republic of Sakha (Yakutia) to patients with cognitive disorders.

Keywords: neurodegenerative diseases, healthcare organization, specialized medical care, Alzheimer's disease, dementia, cognitive disorder.

Relevance of the problem. In the Republic of Sakha (Yakutia) (further RS (Y)) one of the main medical and social problems is cognitive disorder (CI), including Alzheimer's disease (AD). Despite the obvious deficit in AD diagnostics, the situation, as in the world, is becoming extremely important [2]. AD is a disease of old age and increasing age is becoming one of the main reasons for the increase in the incidence and prevalence of AD in the world. In Russia, according to 2019 data, the mortality rate from AD was 0.13%, while out of 188,132 patient visits to a doctor with a diagnosis of dementia, 6,381 cases were due to AD [11].

In the United States, according to the AD Association, in 2021, 6.2 million Americans aged 65 and older suffer from dementia associated with Alzheimer's disease. This number may grow to 13.8 million by 2060. In the United States in 2019, mortality from AD was in 6th place, and among the elderly aged 65 and older in 5th place. Official death certificates recorded 121,499 deaths from AD, or an increase in deaths from AD by more than 145%. In 2020, mortality from AD increased against the backdrop of the COVID-19 pandemic. At the same time, mortality from acute cerebrovascular accidents, heart diseases and HIV decreased between 2000 and 2019 [5,9]

A study of mortality from AD and other dementias in China showed that the overall mortality rate from AD and other dementias increased from 3.7 per 100,000 to 6.2 per 100,000 population in 2011-2020. Studies have shown that there is an increasing trend in the overall mortality rate from AD and other dementias with a decreasing age-standardized mortality rate, indicating the further development of population aging and dementia mortality in the past and future decades [7].

In Brazil, from 2000-2019, 211,658 deaths from Alzheimer's disease were recorded among the elderly, with an increasing trend in mortality at the age of 60 to 80 years and older, which is also consistent with the global trend [8].

According to a retrospective multicenter study in Spain, BA is the cause of an increase in the proportion of hospitalizations and an increase in in-hospital mortality from BA, which leads to an increase in the cost of medical care and emphasizes the importance of early detection and optimization of care for patients with BA [3].

Given the increase in mortality rates and the number of patients with dementia in Russia, taking into account the global situation, there is currently a need to conduct epidemiological studies and develop methods for the early diagnosis and prevention of CI in the Russian Federation. The goal of these activities should be to improve diagnostics, extend the period of a person's full working life and active longevity among the elderly population.

According to Rosstat for the Republic of Sakha (Yakutia), from 2021 to 2023, the number of elderly people aged 60 years and above increased from 148.4 thousand people. up to 154.6 thousand people, respectively, and the average life expectancy was 72.7 in 2022, in 2023 al-

Yakut Science Centre of Complex Medical Problems: **DAVYDOVA Tatyana Kimovna** – PhD, visiting research fellow, head of the lab, tanya.davydova.56@inbox.ru; **ROMANOVA Anna Nikolaevna** – MD, Director; **TATARINOVA Olga Viktorovna** – MD, senior researcher; chief physician of the Republican Clinical Hospital No 3; **NIKOLAEVA Tatiana Yakovlevna** – MD, head of the Department of Medical Sciences of M.K. Ammosov North Eastern Federal University.

ready 73.02 years, in the Russian Federation this figure is 73.4 years.

The creation of methods for early diagnosis and prevention of cognitive disorder requires an integrated approach from the federal and regional governments in consolidation with scientific and educational organizations. The solution to this important medical and social problem will also lead to a reduction in the economic and financial burden on public health.

Materials and methods. The following materials were used in the study:

1. reporting data of the YARMIAC (federal form No. 12 of statistical observation);

2. hospital registry for cognitive disorder No. 2021622297 registered in Rosreestr on October 27, 2021. Copyright holder FGBNU YNC KMP;

3. regulatory documents of the Ministry of Health of the Republic of Sakha (Yakutia) and the Republic of

4. reporting data of the Main Bureau of the Medical and Social Expertise in the Republic of Sakha (Yakutia) on disability;

5. data of the Territorial Statistical Fund for the Republic of Sakha (Yakutia).

The descriptive statistics method was used based on the research materials.

The article presents the results of data collection of information and analytical materials using health indicators for the period from 2019-2023. These data come from 34 uluses (districts) of the Republic of Sakha (Yakutia) and the city of Yakutsk.

Results and discussion. The area of the territory of the Republic of Sakha (Yakutia) is 3083.5 thousand km2. There are 34 uluses (districts) on the territory of the Republic of Sakha (Yakutia), the capital Yakutsk is a city of republican significance and the remaining cities in the republic are cities of republican subordination. Population as of 01.01.2024: 1,001,664 people, of which 677,004 people are urban and 324,660 people are rural. [12]

In order to provide specialized medical care (SMC) for dementia and non-dementia CI in the Republic of Sakha (Yakutia), since 2018, joint activities have been implemented with the Federal State Budgetary Scientific Institution "Yakutsk Scientific Center for Complex Medical Problems" (YSC CMP) and the Ministry of Health (RS (Yakutia) to organize SMC for patients with neurodegenerative diseases (NDZ). Thus, in 2018, a memory room was opened in the YSC CMP outpatient clinic on a reimbursable basis, since the specialty of a neuropsychologist is not included in the compulsory medical insurance program. The collective work of the YSC CMP with the Ministry of Health of the RS (Yakutia) made it possible to approve the order of 14.02.2019 No. 01-07/184 "On the procedure for routing patients with a neurological profile suffering from neurodegenerative diseases at the outpatient and hospital stages." In 2019, a neurological department for patients with neurodegenerative diseases was opened at the YSC KMP By the Order of the Ministry of Health of the Republic of Sakha (Yakutia) dated 17.12.2020 No. 01-07/1945, the republican action plan ("road map") was approved for the implementation of a set of measures to identify and early diagnose cognitive disorder in elderly and senile citizens within the framework of the regional project "Development and implementation of a program of systemic support and improving the quality of life of elderly citizens "Older Generation" (hereinafter referred to as the Set of Measures) in the Republic of Sakha (Yakutia) for 2021. In 2021, the Scientific and Technical Council of the Ministry of Health of the Republic of Sakha (Yakutia) developed and approved methodological recommendations "Early diagnosis of cognitive disorder in older citizens in social and medical organizations." By the order of the Ministry of Health of the Republic of Sakha (Yakutia) dated September 22, 2020 No. 01-07/1326 "On the opening of a memory disorder cabinet at the State Autonomous Institution of the Republic of Sakha (Yakutia) "Republican Clinical Hospital No. 3" a memory cabinet was opened. In 2021, a hospital registry of dementias "Clinical and demographic study of dementias in the Republic of Sakha (Yakutia)" was created. Copyright holder: FGBNU YSC CMP. Certificate of state registration of the database No. 20211622297. Four diseases are included in the hospital registry: Alzheimer's disease, frontotemporal dementia, dementia with Lewy bodies, and progressive supranuclear palsy (Fig. 1). As of 01.01.2023, there are 61 patients in the registry

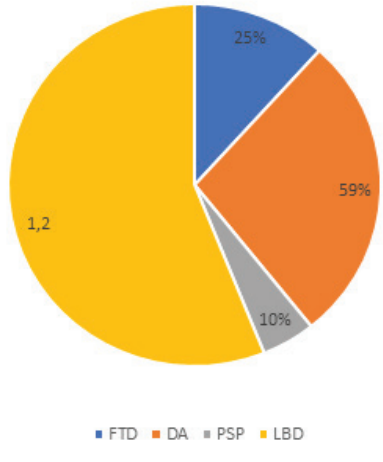

Fig. 1. The number of patients with dementia in the hospital registry of the NDD Center of the YNC KMP

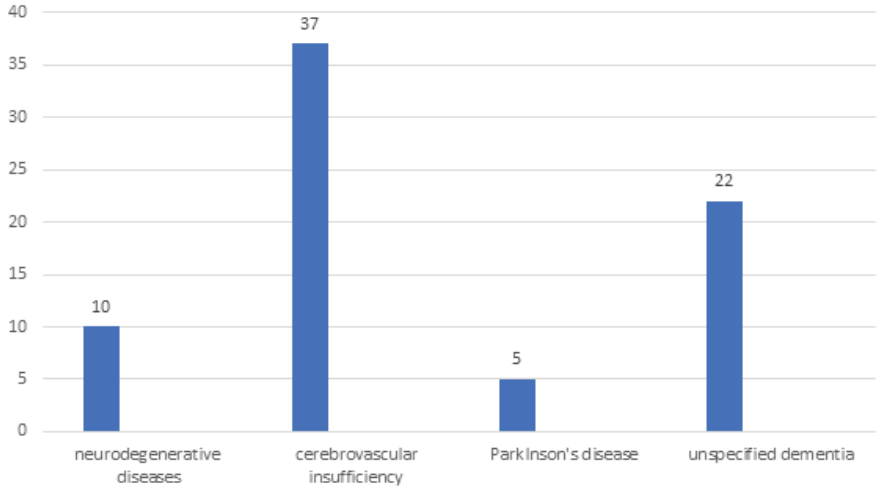

Fig. 2. The number of patients with cognitive impairment referred for clarification of NDD, cerebrovascular encephalopathy (CE), Parkinson's disease (PD) and other unspecified dementia

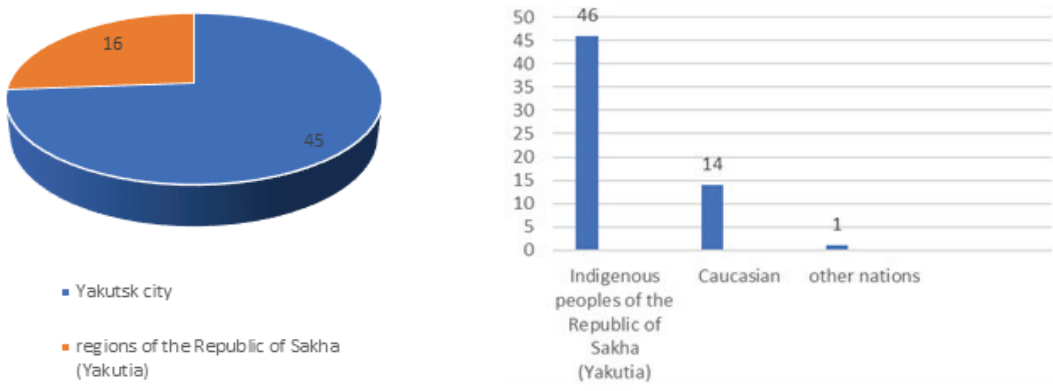

Fig. 3. The number of patients referred from the regions of the RS (Yakutia) and the city of Yakutsk with dementia and their division by ethnicity to the neurological department of the Clinic of YNC KMP

Fig. 1. Number of patients with dementia in the hospital registry of the NDS Center of the Yaroslavl Scientific Center of Cardiology and Medicine.

Fig. 2. Number of patients with cognitive disorder referred for clarification of neurodegenerative disease (NDD), cerebrovascular insufficiency (CVI), Parkinson's disease (PD) and other unspecified dementia and Fig. 2 shows that the largest number of referred patients are those with CVI (n=37) and unspecified dementia (n=22).

Fig. 3. The number of patients referred from the districts of the Republic of Sakha (Yakutia) and the city of Yakutsk with dementia and their division by ethnicity.

At the same time, patients were referred more often from the city of Yakutsk than from the uluses of the republic, which can be explained by the opening of memory rooms and specialized neurological departments of the Yakut Scientific Center for Clinical Medicine and the M.E. Nikolaev Republican Clinical Hospital No. 1 in Yakutsk. By ethnicity, representatives of the indigenous population are mainly registered with dementia in the hospital registry, rather than representatives of the Caucasian race. This is due to the fact that the indigenous population (Yakuts and others) predominates in the territory of the Republic of Sakha (Yakutia) [12].

Routing of patients with cognitive disorders for the provision of psychiatric and medical-psychological care.

Elderly and senile patients with cognitive disorders who have applied to a medical organization providing primary health care, if there are indications, are examined by a psychiatrist at the central district hospital, and residents of the city of Yakutsk and suburban villages at the State Budgetary Institution of the Republic of Sakha (Yakutia) "Yakutsk Republican Psychoneurological Dispensary" (hereinafter YARPND). In the absence of a psychiatrist in the MO, patients are sent to the outpatient department of the YARPND located in the city of Yakutsk. At the same time, if an elderly and senile patient with cognitive disorders who has applied to the MO poses a danger to himself or others due to his mental state, then any doctor of the medical organization makes an emergency call to the ambulance team for hospitalization in the 24-hour hospital of the YARPND. Thus, specialized medical care for patients with cognitive disorder in the Republic of Sakha (Yakutia) is currently provided at the outpatient stage in the memory room of the Active Longevity Center of the State Autonomous Institution of the Republic of Sakha (Yakutia) "Regional Clinical Hospital No. 3" and in the cognitive disorders room of the YNC KMP Clinic. The inpatient stage of specialized medical care for patients with cognitive disorder includes treatment in the neurological department for patients with neurodegenerative diseases in the YNC KMP Clinic and in the geriatric neurology department of the Geriatric Center of RCH No. 3. Patients with cognitive disorder and dementia who pose a danger to themselves and others are referred to the YRCND. According to a study by employees of the Department of Neurology and Psychiatry of the Medical Institute of NEFU and the YNC KMP, the minimum predicted number of patients with AD in the Republic of Sakha (Yakutia) is 4166 people, and the maximum is 8429 people. At the same time, in the industrial uluses of the republic, which are located in the southern part of the Republic of Sakha (Yakutia) and are engaged in the extraction of minerals (Neryungri, Mirninsky, Aldansky), the largest number of patients with bronchial asthma is predicted - with a minimum of 671 people and a maximum of 1467 people. In the central (Khangalassky, Namsky, Gorny), eastern (Ust-Aldansky, Churapchinsky, Tattinsky, Amginsky, Ust-Maisky) and western (Vilyuysky, Verkhnevilyuysky, Nyurbinsky, Suntarsky) uluses, the predicted number of patients suffering from bronchial asthma is significantly lower and is a minimum of 121 people, a maximum of 418 people. The Arctic and northern uluses are expected to have the smallest number of patients with bronchial asthma, especially in Eveno-Bytantaysky (6.9-11.1 people) and Anabarsky (4.8-10.5 people). According to official data from the YARMIAC for 2022, 45 patients with a diagnosis of bronchial asthma have been registered in the Republic of Sakha (Yakutia), of which 36 (80%) people live in the city of Yakutsk, the rest in the central regions and in the Vilyuy group of districts. Of the Arctic uluses, 1 patient has been registered in the Abyysky District. When comparing the predicted number of patients with bronchial asthma with official statistics, an excessively low level of bronchial asthma diagnosis was found in the Sakha Republic (Yakutia). Currently, bronchial asthma diagnosis in the RS (Y) is only 1% of the predicted number [2].

It should be noted that in the International Classification of the 10th Revision (ICD-10), the diagnosis of dementia is coded only by psychiatrists in the class "Mental and behavioral disorders":

Neurologists code cerebrovascular diseases in ICD-10 as "I67-I69" without specifying dementia, since this classification does not allow this. In the "Comprehensive interdisciplinary and interdepartmental program for the prevention, early detection, diagnosis and treatment of cognitive disorders in the elderly and senile individuals until 2025" Appendix 2 specifies the codes to encode vascular dementia, dementia with Lewy bodies, dementia in Parkinson's disease and frontotemporal degeneration (Table 1). Although these dementia diseases are not

Dementia codes in ICD-10

Dementia in ICD-10	Diseases Class "Diseases of the nervous system" (G) section "Cerebrovascular diseases" (I)	Class "Mental and behavioral disorders" (F)
Alzheimer's disease	G30 Alzheimer's disease G30.0 Early-onset Alzheimer's disease G30.8 Other forms of Alzheimer's disease G30.9 Unspecified Alzheimer's disease F00 Dementia in Alzheimer's disease	F00.0 Early-onset dementia in Alzheimer's G30.1 Late-onset Alzheimer's disease disease F00.1 Late-onset dementia in Alzheimer's disease F00.8 Atypical or mixed dementia in Alzheimer's disease F00.9 Unspecified dementia in Alzheimer's disease
Dementia in cerebrovascular diseases Post-stroke dementia Dementia in cerebrovascular encephalopathy	I69 Sequelae of cerebrovascular diseases I67.3 Progressive vascular leukoencephalopathy I67.8 Other specified cerebrovascular diseases F01 Vascular dementia	F01.0 Vascular dementia with acute onset F01.1 Multi-infarct dementia F01.2 Subcortical vascular dementia. F01.3 Mixed cortical and subcortical vascular dementia. F01.8 Other vascular dementia F01.9 Vascular dementia, unspecified
Dementia with Lewy bodies	G31.8 Other specified degenerative diseases of the nervous system	F02.8 Dementia in other specified diseases classified elsewhere
Dementia in Parkinson's disease	G20 Parkinson's disease	F02.3 Dementia in Parkinson's disease
Frontotemporal dementia	G31.0 Localized cerebral atrophy	F02.0 Dementia in Pick's disease
Infectious diseases	G05.0 Encephalitis, myelitis and encephalomyelitis in bacterial diseases classified elsewhere Encephalitis, myelitis or encephalomyelitis (in): syphilis: congenital (A50.4+)late (A52.1+) G05.1 Encephalitis, myelitis and encephalomyelitis in viral diseases classified elsewhere B22.0 HIV disease with manifestations of encephalopathy	F02.4 Dementia in diseases caused by human immunodeficiency virus (HIV) F07.1 Postencephalitic syndrome Posttraumatic encephalopathy
Posttraumatic encephalopathy	T90.5 Sequelae of intracranial injury	F04 Organic amnestic syndrome not caused by alcohol or other psychoactive substances

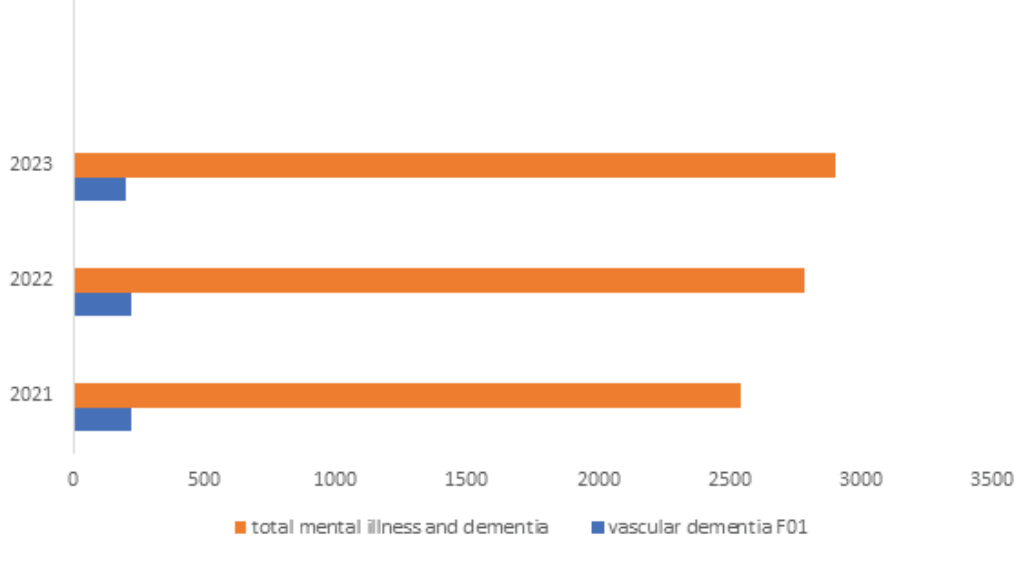

Fig. 4. Number of patients with mental illnesses and dementia in the group over 60 years old according to the Yakutsk Psychoneurological Dispensary

specified in the ICD-10 coding. Thus, the diagnosis of dementia cannot be taken into account in statistics by neurologists.

The number of patients with CI, vascular and mixed dementias in cerebrovascular diseases is unknown, since their number in these groups remains outside the state statistics. According to the YARMIAC, in 2023, 23,745 patients with the code "I67" were registered, of which 1,897 were newly diagnosed. Therefore, in the current situation, we can judge the number of patients with vascular dementia only by the YARPI data (Fig. 4).

Fig. 4. The number of patients diagnosed with DE (I67) and vascular dementia (F 01-F01.3) in the group of people aged 60 years and older.

According to the data provided by the Main Bureau of Medical and Social Expertise (MBMSE) for the Republic of Sakha (Yakutia) of the Ministry of Labor of Russia, the number of newly established disabilities due to dementia (G30.0-G31.0) from 2019-2023 averages 4 people per year, which is also associated with underdiagnosis of dementia.

In the Russian Federation, in general medical practice, the diagnosis of AD is also established in only 1% of cases [1]. Worldwide, 1.6 million people died from dementia in 2019, which makes it the seventh leading cause of death [6]. According to researchers in the USA, North and South America, Japan and China, the study of cognitive health problems and the impact on public health are currently of paramount importance. Particular attention is paid to areas related to early diagnosis and methods of preventing the development of dementia, as well as symptomatic and pathogenetic therapy of Alzheimer's disease and other diseases accompanied by cognitive disorder [3,4,6,7,8,10]. Since 2021, interdepartmental cooperation has been carried out in the Republic of Sakha (Yakutia) to train social workers. Republican Clinical Hospital No. 3, together with ANO "Long Life", implemented the social project "School of Home Care for Elderly Citizens and Disabled People Who Have Lost the Ability to Self-Care." The project team, consisting of doctors and nurses of palliative care, trains social workers in addition to relatives. For several years, a joint project "Medical and social patronage" has been implemented with the aim of developing a model of interaction between social services and primary health care in the interests of elderly and senile people, as well as people with limited mobility, for the implementation of technologies for organizing a long-term care system.

In the Republic of Sakha (Yakutia), research is being conducted aimed at studying the characteristics of the course of dementia and non-dementia cognitive disorders, and hospital morbidity and mortality are being analyzed. For example, the Yakutia Scientific Center for Clinical and Medical Care is conducting research work "Epidemiological, medical and genetic aspects and development of methods of translational and personalized medicine for neurodegenerative diseases in the Republic of Sakha (Yakutia)".

It is important to note that in the organization of anti-dementia measures, the key factors are the prevention and detection of dementia and non-dementia cognitive disorder at an early stage of the development of these conditions. Given the global trend towards an increase in AD, mixed dementias, which is a pressing medical and social problem both in the world and in individual countries and their regions, in 2018 the Russian Federation adopted the "Comprehensive interdisciplinary and interdepartmental program for the prevention, early detection, diagnosis and treatment of cognitive disorders in the elderly and senile until 2025". The development of this program was led by the Ministry of Health of the Russian Federation, the First Moscow State Medical University named after I.M. Sechenov of the Ministry of Health of Russia, the "Russian National Research Medical University named after N.I. Pirogov", as well as the Russian Association of Gerontologists and Geriatricians, the Russian Society of Psychiatrists, the All-Russian Society of Neurologists, the Russian Scientific Medical Society of Therapists, and the Union for the Protection of Mental Health. In July 2024, the regional project "Development and implementation of a program of systemic support and improvement of the quality of life of senior citizens" was developed in the Republic of Sakha (Yakutia) within the framework of the national project "Demography", in which the departments involved in this problem took part: the Ministry of Health of the Republic of Sakha (Yakutia), the Ministry of Labor of the Republic of Sakha (Yakutia), the Federal State Budgetary Scientific Institution Yakut Scientific Center for Comprehensive Medical Research, the Federal State Autonomous Educational Institution of Higher Education "North-Eastern Federal University named after M.K. Ammosov", the North-Eastern Federal University, the Academy of Sciences of the Republic of Sakha (Yakutia). Since 2006, the Department of Neurology and Psychiatry of the Medical Institute of the North-Eastern Federal University named after M.K. Ammosov has included the discipline "Neurodegenerative Diseases" in the optional part of the curriculum for 6th-year students majoring in "General Medicine". The plan includes lectures and practical classes on dementia, Alzheimer's disease and other neurodegenerative diseases in which cognitive disorder and dementia develop are studied.

Conclusion. The conducted analysis of the obtained statistical data from official sources of state statistics, YARPINC reports, the hospital registry of the YRC CMP and regulatory documents of the Ministry of Health of the Republic of Sakha (Yakutia) showed that there is:

- discrepancy between the detected cases of dementia in the YARPINC, YARPINC and in the hospital registry of the YRC CMP, which indicates insufficient medical examination of patients with CI and the absence of a single registry of dementias;
- underdiagnosis of dementias in NDD and AD;
- overdiagnosis of CVD with CI as the main cause of dementia;
- lack of routing of patients with CI;
- lack of a palliative care department for patients with dementias;
- lack of epidemiological studies, which does not allow a reliable assessment of the situation with dementias in the Republic of Sakha (Yakutia);
- the existing classification of dementias in the international classification of diseases ICD-10 does not allow neurologists to code cognitive disorder and dementia in cerebrovascular diseases, which leads to an inadequate assessment of the current situation with dementias.

Organization of consolidated efforts of health authorities, scientific institutions of the medical profile and state bodies of social protection to eliminate the above-mentioned shortcomings will help to identify early and moderate cognitive disorders for the timely initiation of pathogenetic therapy, including AD, which will lead to an extension of active longevity and an improvement in the quality of life.

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S.V. Russkikh, E.L. Savlevich, T.P. Vasilieva, E.A. Tarasenko, L.N. Afanasyeva, A.V. Shurupina, Yu.V. Arsenina

METHODOLOGY FOR DETERMINING THE MEDICAL DETERMINANT OF PUBLIC HEALTH WITH THE IDENTIFICATION OF MEDICAL RISK FACTORS FOR HEALTH DISORDERS IN OTORHINOLARYNGOLOGY (ON THE EXAMPLE OF ANALYZING THE TREATMENT OF POLYPOSIS RHINOSINUSITIS)

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UDC 614.2

RUSSKIKH Sergey Valerievich – PhD, visiting fellow, N.A. Semashko Research Institute of Public Health; teacher of National Research University Higher School of Economics; researcher of the Research Institute of Organization of Health and Medical Management of the Department of Health in Moscow, russkikh1@mail.ru, ORCID: http://orcid.org/0000-0002-3292-1424; **SAVLEVICH Elena Leonidovna** – MD, associate professor, visiting fellow of the Moscow Regional Scientific Research Clinical Institute named after M.F. Vladimirsky, ORCID: https://orcid.org/0000-0003-4031-308x; **VASILIEVA Tatyana Pavlovna** – MD, prof., director of N.A. Semachko Research Institute of Public Health, ORCID: http://orcid.org/0000-0003-4831-1783; **TARASENKO Elena Anatolevna** – Candidate of Social Sciences, Associate Professor of NRU Higher School of Economics, ORCID: https://orcid.org/0000-0001-5070-1735; **AFANASYEVA Lena Nikolayevna** – MD, associate professor of M.K. Ammosov North-East Federal University, ORCID: https://orcid.org/0000-0003-2592-5125; **SHRURUPIINA Anastasia Vladimirovna** – otolaryngologist of the Moscow Regional Scientific Research Clinical Institute named after M.F. Vladimirsky, ORCID: https://orcid.org/0000-0002-0920-4267; **ARSENINA Yulia Vladimirovna** – deputy director of Volga Medical Research University of MH RF, https://orcid.org/0000-0002-6675-1873.

An algorithm for assessing the professional potential of an otorhinolaryngologic based on the identification of medical risk factors in the provision of medical care to patients with rhinosinusitis has been developed. A total of 627 otorhinolaryngologic from 32 subjects of the Russian Federation were screened and the treatment of patients with polyposis rhinosinusitis was analyzed. The proposed methodological approach was successfully used to assess the knowledge and skills of physicians of other specialties and formed the basis for the methodology of studying the professional potential of physicians, for which the author's invention certificates were also obtained.

Keywords: public health, medical determinant of public health, medical personnel, human potential, professional potential, staff potential, medical risks, quality, interaction efficiency, medical effectiveness, polyposis rhinosinusitis, antibiotics, topical glucocorticosteroids, antiseptics, otorhinolaryngologic, sociological research.

Introduction. In accordance with the Decree of the President of the Russian Federation the national interest of Russia is: saving the people of Russia, development of human potential, improvement of the quality of life and well-being of citizens. The possibility of saving the people directly depends on the development of human resources potential of health care system employees as a key component affecting the quality of medical determinant of public health. Comprehensive analysis of the attitude of doctors to their activities is significant from the position of preserving and increasing public health. Medical determinant of public health takes into account the state, resource provision and management processes of public health care, which as a result of synergy ultimately affect the quality of public health. Its components are the state of resource endowment of the industry, including staffing, level of professional potential, quality of professional development institutions, processes of medical care and the results associated with their use in the field of prevention, diagnosis, treatment, rehabilitation, which ultimately improve the quality of public health [5]. Low quality of rendered medical services and, as a consequence, low medical efficiency, negatively affect the state of public health, which is why it is necessary to take into account the state