A.K. Okoneshnikova, T.I. Nikolaeva, P.V. Nikiforov,
L.V. Ignatieva, S.A. Myreeva

ESTABLISHING PAIN THERAPY MANAGEMENT FOR CANCER PATIENTS IN THE REPUBLIC SAKHA (YAKUTIA)

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One of the most challenging and unresolved problems in modern oncology is the provision of medical care to incurable patients. Chronic pain syndrome is one of the most common phenomena causing severe and agonizing suffering to patients with malignant neoplasms.

As part of the implementation of the comprehensive national program for the development of palliative care in the Russian Federation (Order of the Ministry of Health of the Russian Federation and the Ministry of Labor and Social Protection of the Russian Federation dated May 31, 2019, No. 345n/372n), the authors have developed a project for the establishment of a Pain Management Center at the Yakutsk Oncological Dispensary and pain management rooms at the Ambulatory Oncology Center (AOC).

The regulatory and legal framework has been studied, and a calculation of patients requiring adequate pain relief at the end of life for the year 2022 has been conducted. In this project, the relevance of the topic is demonstrated, and the medical and social significance is justified. A SWOT analysis of the project has been carried out, evaluating the main risks of the project and proposing methods to eliminate and minimize negative consequences.

Keywords: chronic pain syndrome, pain treatment center, pain management office, interventional methods, organizing pain treatment, pain treatment.

Introduction. As of today, despite remarkable achievements in the diagnosis and treatment of malignant neoplasms (MN), according to the projected data from the World Health Organization (WHO), an increase in the incidence and mortality of MN is expected. As a result, there will be a noted rise in patients experiencing pain syndrome [5, 9].

It has been established that chronic pain syndrome (CPS) is encountered in the majority of cases in oncological practice. According to specialized literature, at the initial stages of the tumor process, 35–50% of patients report experiencing pain syndrome, with the progression of the disease, this figure rises to 75% of patients, and in the terminal stage, it reaches 95–100% [5, 7].

According to the Federal Law of November 21, 2011 No. 323-FZ “On the fundamentals of protecting the health of citizens in the Russian Federation,” the Ministry of Health of the Russian Federation (MH RF) approved a regulation on the organization of palliative care [1,2]. In Russia and worldwide, palliative medical care (PMC) as an independent direction in healthcare originated in oncological practice, considering that patients suffering from malignant neoplasms (MN) were in greater need of pain relief [5].

In many developed countries around the world, there has been a specialized pain management service for many years [10-12]. Providing pain relief to those suffering from CHD involves several gradations of levels when this assistance is provided.The gradation of levels is directly related to the specialization of medical professionals and the capabilities of healthcare institutions. It has been observed that the proportion of patients decreases as they move up the hierarchy. For example, in Canada, at the primary care stage, physiotherapists and psychologists work with patients [12]. A specialized guide for primary care physicians on the diagnosis and treatment of CPS has been prepared in France (Agence Nationale d’Accréditation et d’Évaluation en Santé — ANAES). Specialized care for patients with CPS in Canada is provided by neurosurgeons, anesthesiologists, and orthopedic surgeons. In turn, in France, there are algological units, which are interdisciplinary advisory services consisting of three specialists [13]. If it is not possible to provide the necessary assistance, the patient is referred to the next stage in an interdisciplinary pain clinic.

According to the literature, there are approximately 15 pain management centers in the Russian Federation. It has also been established that Russia lags behind European countries in the development of pain management centers and the training of specialists by 20-25 years [6]. In the Sakha Republic, like in all regions of Russia, the organization of pain management is not implemented to its full extent. There are no pain management rooms for both oncological and non-oncological patients in the region, highlighting the relevance of this work.

Materials and Methods: in the Sakha Republic in 2022, there were 2614 cases of newly diagnosed malignant neoplasms (MN), with 1291 (49.4%) in men and 1323 (50.6%) in women. By the end of 2022, 13,286 patients were registered in RS (Y) (compared to 12,560 in 2021). The prevalence rate was 1339.2 per 100,000 population. The distribution of newly diagnosed malignant neoplasms by stages was as follows: Stage 1 — 26.3%, Stage 2 — 22.9%, Stage 3 — 18.6%, Stage 4 — 27.1%. According to the Federal State Statistics Service (Rosstat), the mortality rate from MN in the Sakha Republic remains lower than the national average.

OKONESHNIKOVA Alena Konstantinovna – PhD, Associate Professor at the Department of Surgery and Dentistry, Medical Institute of the North-Eastern Federal University, neurosurgeon at the Yakutsk Oncological Dispensary, Yakutsk, alena-okoneshnikova@mail.ru, http://orcid.org/0000-0003-1556-3095; **NIKOLAEVA Tatyana Ivanovna** – PhD, Associate Professor at the Department of Oncology, Medical Institute of the North-Eastern Federal University, Chief Physician at the Yakutsk Oncological Dispensary, Yakutsk, NTI_Nika@mail.ru; **NIKIFOROV Pyotr Vladimirovich** – Head of Yakut Republican Medical Information and Analytical Center, Associate Professor at the Department of Oncology, Medical Institute of the North-Eastern Federal University, Yakutsk, nicciforof@mail.ru; **IGNATIEVA Lena Vasilyevna** – PhD, Associate Professor at the Department of Anesthesiology, Resuscitation, and Intensive Therapy with the Course in Emergency Medical Care, Deputy Chief Medical Officer for Organizational and Methodical Work at the Yakutsk Oncological Dispensary; **MYREEVA Svetlana Anatolyevna** – Candidate of Medical Sciences, Deputy Chief Medical Officer for Outpatient and Polyclinic Affairs at the Yakutsk Oncological Dispensary, Gynecologist, Oncologist

According to preliminary data from Rosstat in the Republic of Sakha (Yakutia), the mortality rate from malignant neoplasms for 2022 was 126.3 per 100 thousand population (the total number of deaths from cancer was 1201 patients, of which 790 were men, 411 women) [8].

By the Order of the Ministry of Health of the Russian Federation No. 345n and the Ministry of Labor of Russia No. 372n dated May 31, 2019, *"On the Approval of the Regulation on the Organization of Palliative Medical Care, including the Procedure for Interaction between Medical Organizations, Social Service Organizations, and Public Associations, and Other Non-Profit Organizations Operating in the Field of Health Protection"*, indications for the provision of palliative medical care (PMC) to oncological patients have been approved. These indications include the presence of metastatic lesions with a minimal response to specialized therapy or the presence of contraindications to its implementation, the presence of metastatic lesions in the central nervous system, liver, lungs, and the presence of pain and other severe manifestations of the disease [1].

Currently, in oncological practice, determining the need for palliative medical care (PMC) requires taking into account data on the incidence, prevalence, and mortality rates of malignant neoplasms (MN) at the territorial level, as well as the number of MN cases diagnosed at stage IV [6].

As part of this project for the establishment of a Pain Management Center at the Yakutsk Oncological Dispensary and pain management rooms at the Ambulatory Oncology Center (AOC), a calculation was made of the number of oncology patients in need of primary care at the end of life according to WHO recommendations (Global Atlas of Palliative Care at the End of Life. London/Geneva: Worldwide Palliative Care Alliance and World Health Organization, 2014) [5].

$$C = A \times B/100,$$

where A is Overall mortality from diseases (malignant neoplasms), B is Pain prevalence (84%, fixed number), C is Number of patients in need of palliative care

$$C = 1201 \times 84\ \% / 100 = 1009.$$

Based on the data provided, it has been established that in 2022, 1009 end-of-life patients were in need of adequate pain management.

As part of the organizational project to establish a Center and pain management rooms in medical organizations of the Sakha Republic, the authors conducted an analysis of the regulatory and legal framework for providing pain therapy to oncological patients.

A comprehensive set of government documents aimed at expanding the accessibility of pain relief was adopted. These include:

- Federal Law dated December 31, 2014, No. 501-FZ: *"On Narcotic Drugs and Psychotropic Substances"*
- Federal Law dated March 6, 2019, No. 18-FZ: *"On Amendments to the Federal Law on the Basics of Citizens Health Protection in the Russian Federation on Issues of Providing Palliative Medical Care"*
- Government Resolution of the Russian Federation dated August 6, 2015, No. 807: *"On Amendments to Certain Acts of the Government of the Russian Federation on Issues Related to the Circulation of Narcotic Drugs, Psychotropic Substances, and their Precursors"*.

This resolution also includes the recognition of the obsolescence of paragraph 3 of the Regulation on the Use of Narcotic Drugs and Psychotropic Substances in Veterinary Medicine [2, 3, 10].

An analysis of the availability of pain relief in providing palliative medical care, including the use of narcotic drugs and psychotropic substances in the Sakha Republic, has been conducted. The organization authorized to engage in activities involving the circulation of narcotic drugs and psychotropic substances in the Sakha Republic is the Sakhafarmatsiya LLC.

As of 2022, there are 343 organizations in the Sakha Republic that dispense narcotic and psychotropic substances to individuals. These points are organized across 33 administrative-territorial entities, including 158 rural health posts, 10 paramedic posts, and 175 medical outpatient clinics [5].

As of today, there is a trend towards an increase in the number of patients in the Stage 4 clinical group among all patients under dispensary observation in oncological institutions in the Russian Federation. It should be noted that based on this trend, the number of patients in need of palliative medical care will steadily grow [6, 10].

Results: In the context of this scientific work, a project has been developed by us for the establishment of a Center and pain management rooms in medical organizations of the Sakha Republic for oncological patients. This initiative is proposed to be implemented at the Yakutsk Oncological Dispensary and the Ambulatory Oncology Center. Figure 1 shows the organizational model of the project.

The project's Strengths and weaknesses of the project were determined using a SWOT analysis (Table 1).

To achieve our project's goal, we need to complete the following tasks:

1. Developing a complex of organizational and methodological measures, including:

- Approving local regulatory acts on the organization of pain management rooms and the Pain Management Center
- Issuing and approving an organizational order
- Obtaining a license for providing palliative medical care.
- Approving job responsibilities for staff
- Adjusting the staffing schedule

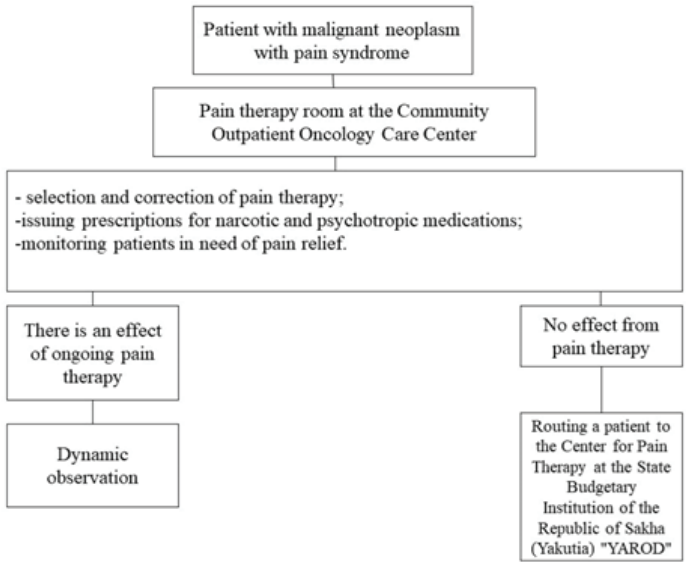

Fig. 1. Project organizational model

of the Ambulatory Oncology Center and the Yakutsk Oncological Dispensary

- Approving the patient routing algorithm for patients with oncological chronic pain to the Pain Management Center at the Yakutsk Oncological Dispensary

2. Establishing the organization's material and technical base:

- Allocating and preparing pain management rooms
- Equipping the rooms (procuring the necessary equipment and inventory)

3. Organizing the Pain Management Center and rooms at the Yakutsk Oncological Dispensary and the Ambulatory Oncology Center in the Sakha Republic:

- Staff training (training programs for professional development in leading scientific centers of the Russian Federation through on-site, distance, and mixed forms of training)
- Approving the operation of pain management rooms and the Pain Management Center (working hours, scheduling)
- Implementing new methods of minimally invasive surgical treatment of chronic pain syndrome to enhance pain management services

Additionally, within the project management framework, we have conducted an assessment of foreseeable risks and methods for their mitigation (see Table 2).

In the pain management rooms at the Ambulatory Oncology Center, appointments will be conducted by general practitioners or oncologists who have undergone advanced training courses in Palliative Care or courses in pharmacotherapy for chronic pain syndrome in oncology patients. At the Pain Management Center at the Yakutsk Oncological Dispensary, appointments will be handled by a surgeon or neurosurgeon who has completed advanced training in Palliative Care. Interventional surgical methods for treating chronic pain syndrome will be carried out in the day hospital of the Radiosurgical Diagnostic and Treatment Methods Department (RDTMD).

The treatment of pain syndrome in patients with malignant neoplasms will

Table 1

Project's SWOT analysis of the project to create a Center and Pain Management Rooms at the Yakutsk Oncological Dispensary and the Ambulatory Oncology Center

Strengths	Weaknesses
Yakutsk Oncological Dispensary Structural Unit	Lack of a state program for the study and treatment of CPS in cancer patients
Current lack of pain managements centers or rooms in the Sakha Republic	Lengthy bureaucratical process of coordinating all organizational issues when creating a pain management service
Modern medical equipment in the Yakutsk Oncological Dispensary for conducting interventional surgical methods for the treatment of CPS	Lack of regulations regarding pain management services
Inclusion of CPS into ICD-11 as a standalone disease	Lack of funding sources
Guaranteed influx of patients with CPS	Insufficient number of qualified specialists and lack of state specialized centers/rooms for chronic pain syndrome management
Highly qualified medical personnel	Lack of reliable information among the population about the causes of chronic pain, as well as methods of its prevention and treatment
High-tech medical services for the treatment of chronic pain syndrome	Vast territory of the Sakha Republic

Table 2

Risk Assessment when Organizing a Center and Pain Management at the Yakutsk Oncological Dispensary and the Ambulatory Oncology Center

Risk	Assessment	Ways to Eliminate and Minimize Negative Consequences
External Risks		
Risk of failure to obtain relevant government approvals	High	Compliance with all requirements for medical services
Internal Risks		
Decreased quality of services as a result of insufficient staff experience	Medium	Hiring only highly qualified personnel
Lack of own funds to finance the project	Medium	Maintaining a minimum monetary reserve
Equipment failure	High	Acquiring warranty service agreements
Lack of an effective management system or decreasing quality of management	Low	Constant monitoring of the Medical Center's activities
Difficulties with recruiting qualified personnel	Medium	Maintaining high salary levels
Energy outages	Low	Installing an uninterruptible power supply system
Inventory decline	Medium	Maintaining the minimum required amount of inventory

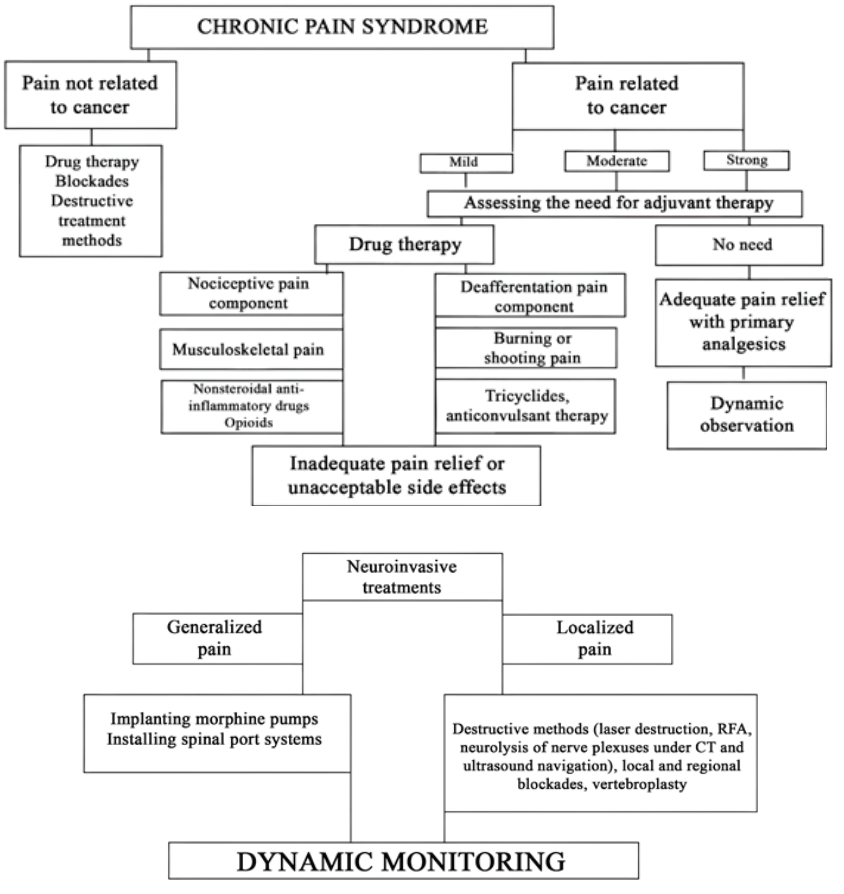

Fig. 2. Algorithm of interventional methods of surgical treatment of chronic pain syndrome in cancer patients

be provided at both early and advanced stages of the disease, as well as during the postoperative period and throughout the entire course of treatment for the primary illness. Additionally, treatment for pain syndrome unrelated to the primary disease will be administered.

Pain Management Rooms are tasked with the following responsibilities:

1. Treating chronic pain syndrome and other severe manifestations associated with malignant neoplasms
2. Selecting analgesic therapy, prescription of medications, including narcotic and psychotropic drugs
3. Monitoring patients in need of pain management
4. Referring patients to the Pain Management Center at the Yakutsk Oncological Dispensary for persistent pain syndrome resistant to pharmacotherapy to provide interventional surgical treatment for chronic pain syndrome.

The Pain Management Center will primarily focus on selecting patients for interventional surgical methods, and the list of interventions performed is indicated in Figure 2.

Also, within the framework of this project, tasks have been formed that must be completed to implement this work:

1. Developing the financial plan for the project
2. Calculating the expenses required for organizing the training of medical personnel and equipping workplaces
3. Establishing telemedicine consultations for the Pain Management Center and Rooms

As follows, this scientific work on organizing pain management for oncology patients in the Sakha Republic requires refinement in terms of assessing economic efficiency and legal protection before being implemented in practical activities.

Conclusion: the project we have presented for organizing pain management for oncology patients in the Sakha Republic is designed to improve the quality of life for patients and their families in the region. The effective work of this project will make it possible to receive specialized pain care in remote and hard-to-reach areas of the Republic of Sakha (Yakutia).

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L.F. Timofeev, A.L. Timofeev

PRIMARY MORBIDITY IN THE POPULATION OF THE REPUBLIC OF SAKHA (YAKUTIA) FOR THE PERIOD 2005-2021

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The article presents an analysis of the primary morbidity of the population in the Republic of Sakha (Yakutia). The purpose of the study was to conduct a comparative assessment of primary morbidity indicators for the entire population of the Republic of Sakha (Yakutia) by disease class with similar average Russian indicators. At the same time, the morbidity rate for the period 2005-2021 was analyzed. The percentile method was used to determine morbidity levels. As a result, classes of diseases were identified that had high levels throughout the Russian Federation during the period under review. In this regard, the following classes of diseases are distinguished: diseases of the nervous system, eyes and its appendages, diseases of the respiratory and digestive organs, diseases of the skin and subcutaneous tissue, injuries, poisoning and some other consequences of external causes. The points for applying the efforts and resources of health care authorities and medical organizations of the republic to improve public health indicators are becoming obvious.

Keywords: primary morbidity, primary morbidity by disease class, Republic of Sakha (Yakutia), morbidity in the population of the Russian Federation.

Introduction. State and regional authorities of the Russian Federation are making considerable efforts to improve the health status of the population. This is evidenced, in particular, by the currently existing National Health and Demographic Projects and the State Health Care Development Program until 2024. At the same time, identifying those classes and types of diseases that are problematic in certain regions is of no small importance. We have set this task for our republic. At the same time, the following goal of the study was determined: to conduct a comparative assessment of primary morbidity indicators of the entire population of the Republic of Sakha (Yakutia) by disease class with similar average Russian indicators.

Materials and methods of research. The materials of official statistics were analyzed: the Federal State Statistics Service (Federal State Statistics Service or Rosstat) and the Yakut Republican Medical Information and Analytical Center (YRMIAC) [1, 2]. When analyzing population morbidity, the percentile method was used. According to this method, regions with indicators up to the 10th percentile were classified as territories with a low level of one or another morbidity indicator, from the 10th to 25th percentile - with a level below average, from 75 to 90th - above average and above 90- th percentile – with a high level. It is obvious that regions with indicators ranging from the 25th to 75th percentiles belonged to groups with average values.

Results and discussion. The analysis revealed the level of primary morbidity of the entire population for 2005 and 2010-2021 for the main classes of diseases [1, 2]. Table 1 presents primary morbidity indicators for the entire population of the Russian Federation and the Republic of Sakha (Yakutia) (registered diseases in patients diagnosed for the first time in their lives).

As stated, morbidity rates were determined using the percentile method for all subjects of the Russian Federation, including the Republic of Crimea and the city of Sevastopol since 2014, and the Arkhangelsk and Tyumen regions were assessed without taking into account the autonomous okrugs. We conducted similar studies earlier [3].

Thus, if in 2005 the republic was among the territories with an above-average level of primary morbidity in general, then in 2010-2019 was already at a high level. At the end of 2017, this figure in the Republic of Sakha (Yakutia) was 31.2% higher than the Russian average.

For infectious and parasitic diseases during the period under review, the morbidity rate in the republic was average, not counting 2012 and 2020 (the level was below average). For neoplasms, an average morbidity rate is noted for all years, not including 2020.

For diseases of the blood and hematopoietic organs, the morbidity rate in 2005 and in 2010-2014 was above average. And for diseases of the endocrine system, a motley picture emerges: in 2005, 2010-2011, 2013 there was a high level, in 2012 and 2014 - above average, in 2016 and 2021 - below average, and in 2017-2018 and in 2020 – a low morbidity rate for this class of diseases.

For diseases of the nervous system in 2005, 2010-2016 there was a high morbidity rate, and in 2017-2019 and in 2021 the level is above average. Eye diseases: only in 2017-2018. and in 2020, the indicator can be attributed to the average level for the country; in the remaining years under review, levels above average and even high were noted (2010, 2013-2014). For ear diseases, the picture is more favorable, and in some years (2011-12 and 2016-2018) the morbidity rate was below average.

TIMOFEEV Leonid Fedorovich – MD, Professor of the Department of Organization and Preventive Medicine of the Medical Institute M.K. Ammosov NEFU Yakutsk, ORCID 0000-0003-1849-3504, e-mail: tlfnauka@mail.ru; **TIMOFEEV Artem Leonidovich** – Deputy Chief physician of the State Autonomous Institution RS (Ya) Medical Center of Yakutsk city; ORCID 0000-0003-1046-8064, e-mail: su-yuol@mail.ru.