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Proposals for optimizing the staffing of outpatient oncological care centers in Leningrad Region

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ABSTRACT. ***Introduction.*** Outpatient oncological care centers were organized in the subjects of the Russian Federation in 2019, within the framework of the program "Fighting Cancer" to ensure the appropriate quality of diagnosis, treatment and rehabilitation of patients with malignant neoplasms at the outpatient stage. The increasing relevance of the work of outpatient oncological care centers places increased demands on the staffing of these units and determines the need to analyze their activities and opportunities to improve the results of medical care for patients with malignant neoplasms. ***Aim of the study:*** to evaluate the staffing of outpatient oncological care centers in Leningrad Region in order to improve the efficiency of these units and to improve their work for rehabilitation of patients with malignant neoplasms. ***Materials and methods.*** Official statistical data as well as information from publications presented in peer-reviewed journals during the period of 2010–2023 on the topic of the research were studied. A continuous search in the texts of medical publications using the key words "oncological diseases", "oncological institutions of Leningrad Region", "statistics of oncological morbidity in Leningrad Region", "outpatient oncological care centers" was carried out. ***Results and discussion.*** The analysis of the staffing structure of outpatient oncological care centers in Leningrad Region showed that the ratio of the contingent of the registered population does not meet the recommended staffing standards in accordance with the order of the Ministry of Health of Russia dated February 19, 2021 N 116n "On Approval of the Procedure for the provision of medical care to the adult population with oncologic diseases". There is a low ratio of the number of people of middle level medical personnel per one doctor, compared to global trends. This requires taking organizational measures to increase the staff and targeted training of specialists of nursing staff and to expand their staff-functional responsibilities when working with patients with malignant neoplasms. ***Conclusion.*** Staffing and increase in staffing standards of nursing personnel in outpatient oncological care centers and their additional training will improve the efficiency of outpatient cancer care centers, rationally using human and financial resources.

KEYWORDS: malignant neoplasms, Leningrad Region, health care organization, rehabilitation, primary oncological office, outpatient oncological care center

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Предложения по оптимизации кадрового оснащения центров амбулаторной онкологической помощи Ленинградской области

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РЕЗЮМЕ. ***Введение.*** Центры амбулаторной онкологической помощи (ЦАОП) организованы в субъектах РФ в 2019 г. в рамках программы «Борьба с онкологическими заболеваниями» для обеспечения надлежащего качества диагностики, лечения и реабилитации пациентов со злокачественными новообразованиями (ЗНО) на амбулаторном этапе. Возрастающая актуальность работы ЦАОП предъявляет повышенные требования к кадровому оснащению этих подразделений и определяет необходимость анализа их деятельности и возможностей улучшения результатов медицинского обеспечения пациентов с ЗНО. ***Цель исследования:*** оценить кадровое оснащение ЦАОП в лечебно-профилактических учреждениях (ЛПУ) Ленинградской области (ЛО) с целью улучшения эффективности работы этих подразделений и совершенствования их деятельности для реабилитации пациентов с ЗНО. ***Материалы и методы.*** Изучены официальные статистические данные, а также сведения из публикаций, представленных в рецензируемых журналах за 2010–2023 гг. по теме исследования. Проведен сплошной поиск в текстах медицинских публикаций по ключевым словам «онкологические заболевания», «онкологические учреждения Ленинградской области», «статистика онкологической заболеваемости в Ленинградской области», «центры амбулаторной онкологической помощи». ***Результаты и обсуждение.*** Анализ кадрового состава ЦАОП ЛО показал, что соотношение контингента приписного населения не соответствует рекомендуемым штатным нормативам в соответствии с приказом Минздрава России от 19.02.2021 г. № 116н «Об утверждении Порядка оказания медицинской помощи взрослому населению при онкологических заболеваниях». Отмечено низкое соотношение количества физических лиц среднего медицинского персонала на одного врача в сравнении с мировыми тенденциями. Это требует принятия организационных мер по увеличению штата и целевой подготовке специалистов среднего медицинского персонала и расширению их штатно-функциональных обязанностей при работе с пациентами с ЗНО. ***Заключение.*** Укомплектованность кадрами и увеличение штатных нормативов среднего медицинского персонала в ЦАОП и их дополнительное обучение позволят повысить эффективность работы центров амбулаторной онкологической помощи, рационально используя человеческие и финансовые ресурсы.

КЛЮЧЕВЫЕ СЛОВА: злокачественные новообразования, Ленинградская область, организация здравоохранения, реабилитация, первичный онкологический кабинет, центр амбулаторной онкологической помощи

INTRODUCTION

Indicators characterizing the activities of oncology care in Leningrad Region can be considered satisfactory: mortality rates ("crude" and standardized) in patients with malignant neoplasms (MN) tend to decrease (221.41 to 201.0 per 100 000 population fir the period 2012–2022 [1]) against the background of stabilization of the incidence rate of MN. The dynamics of the five-year survival rate of this cohort of patients and their one-year mortality over 10 years are characterized by monotonous nature. In 2018–2022, the proportion of MNs detected at early stages (I–II) increased by 7.4% (53.4 to 60.8%), the one-year mortality rate of patients with MN decreased by 3.7% (20.5 to 16.8%), and the proportion of patients registered with an oncologist for 5 years or more increased by 4.5% (54.5 to 59.0%) [1].

Maintaining a normal level of medical care to patients with MN occurs in conditions of a personnel shortage in the district oncology service. Every year, opportunities of outpatient clinics to diagnose and provide preventive measures for patients with MN are expanding. Thus, survival rates of these patients with an acceptable quality of life are improving. In Leningrad Region, these tasks are also assigned to employees of outpatient oncological care centers (OCCs), organized within the framework of the "Fight Against Cancer" program [2].

Problems with the quality of diagnostics of newly diagnosed MN, including in patients with locally advanced and disseminated tumors, shortcomings in cancer alertness among primary care physicians, as well as failure to comply with timing for providing medical care to patients with MN remain relevant. The cancer mortality rate of patients with MN in Russia living outside large cities exceeds similar rates among residents of the USA and Europe, which confirms the need to improve cancer care [3].

In accordance to the Russian State program "Fight Against Cancer", it is planned to increase the proportion of patients with MN registered for 5 years or more, out of the total number of patients with MN under follow-up monitoring, from 56.5% in 2021 to 63% in 2030. The proportion of people with MN who have undergone examination and (or) treatment in the current year, out of those under dispensary observation also planned to be increased from 66% in 2021 to 90% in 2030 [4].

When OOCs were created, the main part of oncological care in outpatient conditions was primary oncological office (POO). The functions of POO were registration, diagnosis, treatment and follow-up monitoring of patients with MN. POOs were organized on the basis of city clinics. The POO staff provided consultations and home medical care for patients with MN, preventive examinations of the population to identify oncological diseases, and consultations on the diagnosis and treatment of patients with MN at the outpatient stage. In some regions of Russia, diagnosis and treatment of patients with MN were also conducted on the basis of oncology preventive centers (oncology dispensaries) reducing the period of time before the start of specialized medical care [5].

Since 2019, the functions of POOs in Leningrad Region have been performed by 5 OCCs with modern equipment, which allows improving the quality of diagnostics of MN in residents of the region. The work of OCCs was controlled by administrations of medical organizations and the main regional oncology treatment and prevention institution in St. Petersburg. In OCCs, despite diagnostic, organizational and methodological activities, antitumor drug therapy, restorative and corrective treatment of patients with MN is carried out after completion of drug treatment. However, rehabilitation measures including therapeutic physical training (TPT) complexes, psychological assistance and lectures on further stages of treatment (health education work) are practically not carried out within the framework of OCCs.

AIM

To evaluate the staffing of OCCs in Leningrad Region in order to improve the efficiency of these units and to improve their work for rehabilitation of patients with MN.

MATERIALS AND METHODS

Official statistical data as well as information from publications presented in peer-reviewed journals during the period of 2010–2023 on the topic of the research were studied. A continuous search in the texts of medical publications using the key words "oncological diseases", "oncological institutions of Leningrad Region", "statistics of oncological morbidity in Leningrad

Region", "outpatient oncological care centers" was carried out.

RESULTS AND DISCUSSION

On the territory of the Leningrad Region, OCCs were opened in five districts (for 5 beds — in 4 districts, for 3 beds — in Kingisepp district). Options for staffing and location of OCCs in the Leningrad Region are presented in Table 1.

Recommended staff norms for OCC entered into force on 01.01.2022 are presented in accordance to the order of the Ministry of Health of Russia dated 19.02.2021 No. 116n "On approval of the Procedure for providing medical care to the adult population with oncological diseases" [6]. OOC's staffing schedule includes following specialists: head of the center — oncologist (1 per center); oncologist (1 per 25,000 people); oncologist (1 per 10 beds); nurse (1 per 25,000 people); ward nurse (1 per 10 patient beds); procedure room nurse (1 per 10 patient beds). Due to the data from Table 1, attention is drawn to the discrepancy with staffing standards regarding the ratio of the assigned population to the number of oncologists in the OCCs of the Leningrad Region, which necessitates an increase in the personnel of existing OCCs, including by expanding the number of nursing staff.

The ratio of doctors to mid-level medical personnel in our country is significantly lower than in developed countries (in Japan and Germany 1:4.6, in Russia 1:2.2 according to 2015 data), which causes an imbalance in the healthcare system, limiting the possibilities for the development of home care and rehabilitation services [7, 8].

The development of healthcare system concept until 2020 assumed a gradual increase in the share of mid-level medical personnel until the ratio of doctors to mid-level medical personnel reached 1:3–5, and the ratio of the number of doctors to mid-level medical personnel reached 1:7–8 for the home care service of the Russian Federation [9]. The World Health Organization recommended the ratio of doctors to mid-level medical personnel as 1:4.

It is necessary to increase the amount of mid-level medical workers in Russia to increase the ratio of "doctors to mid-level workers" in the country's public healthcare system, which will lead to an improvement in the quality of medical services provided to the population [8]. An analysis of international experience on work of mid-level medical workers showed, that the rational use of nursing staff can lead to significant improvements in the availability and quality of medical care and to the most efficient use of financial and human resources [10].

Switzerland introduced a unique system of training for nurses, thanks to which staff receive a high level of medical training: employees are given the opportunity to independently prescribe and cancel medications, work with technological equipment and, if indicated, provide psychological assistance to patients [11].

In the USA, active work of stoma-centers is provided, where patients with stoma can receive qualified assistance from highly specialized medical personnel. Certified nurses provide patients with MN postoperative education and care, and conduct dynamic monitoring of patients with a change of stomas without the participation of doctors [12].

In US clinics, mid-level medical staff implement special patient training and rehabilitation programs that reduce anxiety, depression, and improve the quality of life in patients with MN who have completed a course of adjuvant chemotherapy or immunotherapy [13]. This is possible due to the educational programs for nurses, within which, after receiving basic nursing education (Registered Nurse (RN)), there is an opportunity to additionally obtain Advanced Practice Registered Nursing (APRN) (highly qualified nurse), which requires postgraduate training for 2–6 years. Completion of these programs significantly expands the staff's ability to work with patients, including self-diagnosis and therapy without the involvement of a physician. As of May 2023, the average annual salary of practicing nurses (APRN) is higher ($126,260) than that of nurses with basic (RN) nursing education ($86,070), but significantly less than the average salary of a physician ($239,200) [14]. The implementation of educational programs for nurses, such as Advanced Practice Registered Nursing, despite the costs of additional training, may be cost-effective in the long term.

The potential of the mid-level medical personnel of the OCC can be used most effectively at the stage of rehabilitation of patients with MN transferred to the outpatient stage of observation after inpatient treatment. A list of such activities, including therapeutic physical training complexes, the work of a psychologist and timely informing patients about further stages of

Table 1

General data about oncological care centers on the territory of Leningrad Region

Таблица 1

Общие сведения о центрах амбулаторной онкологической помощи на территории Ленинградской области

Район / Area	**Место расположения / Location**	**Год начала работы / Starting year**	**Контингент приписного населения, тыс. чел. / The contingent of the registered population, thousand people**	**Кадровый состав / Personnel composition**
Выборгский / Vyborgsky	Выборгская МРБ*. г. Выборг, ул. Октябрьская, д. 2 / Vyborg Interdistrict Hospital*. Vyborg, 2 Oktyabrskaya Street	2020	260	1) Заведующий ЦАОП, врач-онколог / Head of Outpatient Oncological Care Center, oncologist 2) врач-онколог / oncologist 3) врач-онколог / oncologist 4) врач-эндоскопист / endoscopist
Гатчинский / Gatchinsky	Гатчинская клиническая МРБ. г. Гатчина, ул. Урицкого, д. 1 / Gatchina Interdistrict Hospital. Gatchina, 1 Uritsky Street	2020	495	1) Заведующий ЦАОП, врач-онколог / Head of Outpatient Oncological Care Center, oncologist 2) врач-онколог / oncologist 3) врач-онколог / oncologist 4) врач-эндоскопист / endoscopist
Всеволожский / Vsevolozhsky	Ленинградский клинический онкологический диспансер им. Л.Д. Романа. Всеволожский район, пос. Кузьмоловский, ул. Заозерная, д. 2 / Leningrad Clinical Oncological Dispensary named after L.D. Roman. Vsevolozhsk district, Kuzmolovsky Village, 2 Zaozernaya Street	2020	505	1) Заведующий ЦАОП, врач-онколог / Head of Outpatient Oncological Care Center, oncologist 2) врач-онколог (уролог) / oncologist (urologist) 3) врач-онколог (торакальный хирург) / oncologist (thoracic surgeon) 4) врач-онколог (маммолог) / oncologist (mammologist) 5) врач-онколог (специалист голова–шея) / oncologist (doctor head–neck)
Тихвинский / Tikhvinsky	Тихвинская МРБ им. А.Ф. Калмыкова. г. Тихвин, ул. Карла Маркса, д. 66 / Tikhvin Interdistrict Hospital named after A.F. Kalmykov. Tikhvin, 66 Karl Marx Street	2019	330	1) Заведующий ЦАОП, врач-онколог / Head of Outpatient Oncological Care Center, oncologist 2) врач-онколог / oncologist 3) врач-онколог / oncologist 4) врач-эндоскопист / endoscopist
Кингисеппский / Kingisepp	Кингисеппская МРБ им. П.Н. Прохорова. г. Кингисепп, ул. Воровского, д. 20 / Kingisepp IH named after P.N. Prokhorov. Kingisepp, 20 Vorovskogo Street	2020	260	1) Заведующий ЦАОП, врач-онколог / Head of Outpatient Oncological Care Center, oncologist 2) врач-онколог / oncologist 3) врач-эндоскопист / endoscopist

* МРБ — межрайонная больница / IH — interdistrict hospital.

recovery, should be carried out for all patients with MN. Implementation of comprehensive programs in practice will improve the treatment results of patients with MN and their quality of life [15].

CONCLUSION

The work of OCC staff in the Leningrad Region allows to significantly improve the availability and quality of specialized oncological

care for patients with MN. However, it is necessary to adjust the number of personnel in these institutions, primarily by increasing the number of mid-level medical personnel, with the development of additional methods of rehabilitation and follow-up monitoring of patients.

Perhaps it is necessary to review the staffing schedule of the OCC, attract mid-level medical personnel from healthcare institutions located in the region, and deepen programs for additional training of employees, taking the training experience of foreign colleagues as a guide. These steps will improve the availability and quality of medical care for patients with MN and use financial and human resources most effectively.

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 was agreed to be accountable for all aspects of the study.

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

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