

EPIDEMIOLOGICAL ASSESSMENT OF CANCER INCIDENCE IN THE RURAL POPULATION OF THE ALMATY REGION

L.J. ORAKBAI¹, S.K. KARABALIN¹, K.B. SHEGIRBAYEVA², A.N. ADILKHANOVA¹,
J.B. BEYSENBINOVA³, E.I. KUSSAIYNOVA³, A.K. TEKMANOVA³

¹Kazakh-Russian Medical University, Almaty, the Republic of Kazakhstan;

²Institute of Occupational Medicine, Professional Pathology and Industrial Ecology, Almaty, the Republic of Kazakhstan;

³Asfendiyarov Kazakh National Medical University, Almaty, the Republic of Kazakhstan

ABSTRACT

Relevance: In recent decades, there has been an increase in oncological diseases in Kazakhstan, becoming a serious medical and social problem. The relevance of this topic is due to the need to study the causes and dynamics of morbidity in various regions, including rural areas. A lower level of accessibility to medical services, including diagnosis and treatment of oncological diseases, characterizes rural areas of Kazakhstan. Insufficient medical care, difficult socioeconomic conditions, and the possible impact of harmful environmental factors make rural populations more vulnerable to diseases, including cancer. Reliable data on the level and characteristics of cancer is needed to make adequate management decisions in healthcare. Epidemiological analysis in the region's context will optimize resource allocation and improve the availability and quality of cancer care for the rural population of the Almaty region.

The study aimed to provide an epidemiological assessment of cancer incidence in the rural population of the Almaty region.

Methods: The study included a retrospective analysis of the indicators of the oncological service of the Almaty region, materials on the incidence of malignant neoplasms based on the screening program's results (2015-2020), and statistical processing of indicators.

Results: Despite a slight decrease in morbidity and precancerous conditions, the mortality rate did not decrease significantly. The ranking of districts by the general incidence of malignant neoplasms revealed that the "disadvantaged" districts included the Enbekshikazakh, Ili, Karasay, and Talgar districts; the "relatively prosperous" – Zhambyl and Uygur; and the "prosperous" – the Balkhash and Raiymbek districts. The increase in the incidence of malignant neoplasms in almost all localizations in the Almaty region was due to increased cases among the able-bodied population and the rejuvenation of the disease.

Conclusion: Summarizing the results of an epidemiological study of the nature and trends of the incidence of malignant neoplasms in the rural population of the Almaty region allows us to formulate the main directions of managerial efforts to change the situation. It is necessary to pay attention to the increase in cancer incidence in the Almaty region (the growth rate is 0.5%). The incidence of malignant neoplasms in almost all localizations of the Almaty region is due to the intensive increase in the incidence of the able-bodied part of the population's "rejuvenation." Therefore, prevention and early diagnosis at the age of 40-60 years with the formation of high-risk groups should lead to a decrease in morbidity and mortality.

Keywords: public health, morbidity, epidemiological assessment, screening, cancer awareness, prevention, early cancer diagnosis.

Introduction: According to the World Health Organization, 19.3 million cancer incidences and 10 million mortalities were registered in 2020 [1]. Cancer incidences increased in developing countries, including Kazakhstan. Cancer morbidities are prevalent among rural residents due to the impact of socio-economic and environmental factors. Growing access to healthcare services is crucial in addressing cancer epidemiology [2]. Canadian studies proved that rural residents' access to medical oncology services is limited. It increases cancer incidence and mortality [3]. According to comparative analysis, cancer treatment outcomes are higher in regions with better health care. Similar studies in Europe proved that smoking, limited physical activity, and limited access to healthcare services increase cancer incidence in rural areas [4, 5].

According to the Ministry of Health of the Republic of Kazakhstan, cancer incidences among rural residents are high. However, the characteristics of this group have not been sufficiently studied.

The studies conducted in other countries demonstrated the necessity of a more in-depth analysis of oncological diseases in rural areas to develop effective prevention and treatment methods [6].

Screening is the most important aspect of early cancer detection. That is cancer detection through mass preliminary population examinations [7]. The main goal of screening is to detect asymptomatic tumors early and treat them. For early detection of diseases in the Republic of Kazakhstan, the National Screening Program provides for preliminary medical examination among target population groups. Early diagnosis of a tumor allows for a complete cure for the disease. Late detection complicates treatment by the risk of tumor spread [8]. Screening studies increased early cancer detection. This positive trend indicates patients' condition improvement and screening programs' effectiveness [9].

The study aimed to provide an epidemiological assessment of cancer incidence in the rural residents of the Almaty region.

Materials and Methods: We analyzed the Almaty region oncology service indicators based on the screening program results, collected data on malignant neoplasm incidence, and statistically processed their indicators.

We used information on the number of cancer incidences and the prevalence by type of cancer among age groups from the Ministry of Health of the Republic of Kazakhstan. We used detailed information on the patient's condition, time and place of diagnosis, and treatment results from oncology registries. We also used the international Globocan database for comparative characteristics [10]. It allowed us to compare cancer incidence and mortality in Kazakhstan with other countries and regions.

Results: According to the World Health Organization [1], cancer incidence in Central Asia is higher than in other regions. According to Globocan 2020 [10], the incidence in Kazakhstan is 89 cases per 100,000 population. It is very close to the rates in neighboring countries such as Kyrgyzstan and

Uzbekistan. The Almaty region's rural population makes up a significant part of its population. According to the latest census [11], about 40% of the region's population lives in rural areas. It is approximately 1.5 million people.

These settlements are distinguished by their ethnic diversity, in which many Russians and other nationalities live along with Kazakhs. In the Almaty region, 8,902 cancer patients are registered under dynamic control. In 2018, the incidence rate was 1,670 (relative mass 123.0); in 2019, 1,700 newly diagnosed patients were registered (relative mass 124.1).

Based on the overall cancer incidence rate in the Almaty region (Figure 1), the following «unfavorable» districts are identified: Enbekshikazakh, Ili, Karasay, and Talgar (marked red on the map), and «relatively favorable» districts: Zhambyl and Uyghur (marked yellow on the map), and «favorable» districts: Balkhash and Raiymbek (marked green on the map).

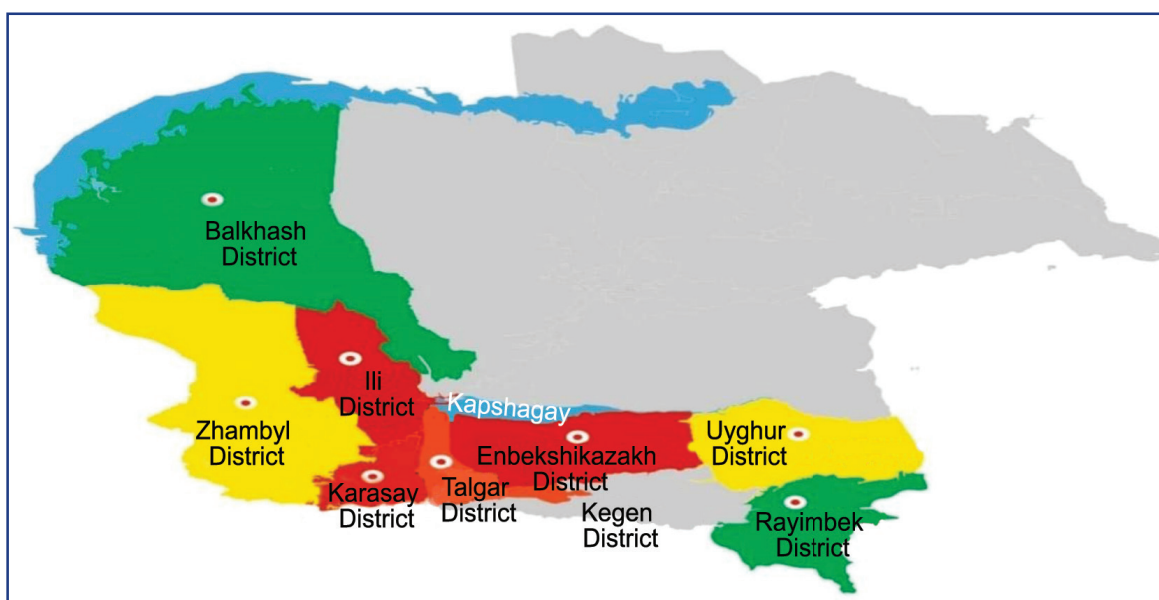


Figure 1 – Differentiation of districts by overall cancer incidence

The cancer incidence among the population increases with age. For example, in the US studies, over 60% of cancer cases occur in people over 65 years [12]. Dividing the population into age groups (0-17, 18-44, 45-64, 65+) is important to analyze which age groups cancer is most common. Analysis of age-related malignant neoplasm incidence in 2019 showed the predominance of breast and cervical cancer in age categories. That is: 40-49 age (Breast cancer – 49 cases, cervical cancer – 19 cases), 50-59 age (Breast cancer – 45 cases, cervical cancer – 30 cases), 60-69 age (Breast cancer – 59 cases, cervical cancer – 20 cases). Also, in the age category of 30-39 years (Breast cancer – 19 cases, cervical cancer – 14 cases) (Figure 2). Although cancer is more common in older people, blood cancer and breast cancer are most common among young people.

Cancer occurs with different frequencies in men and women. For example, lung and liver cancer are more com-

mon in men. And breast cancer is more common in women. According to the World Health Organization, in 2020, breast cancer was the highest among women worldwide [13]. In the Almaty region, lung cancer is more common among men, and breast cancer is in first place among women.

As of 2021, lung cancer accounts for 27% of all cancer cases among men. Breast cancer in women accounts for 32% [14]. According to the study, the average age of patients diagnosed with colon cancer was 65.2 ± 7.45 years, and among men – 64.8 ± 4.48 years, and among women – 65.5 ± 5.06 years. Age-related features of this disease are characterized by reaching the progression threshold even at 70 ages and older, with an increase for each subsequent decade of the disease (Figure 3).

In the Almaty region, cancer incidence is distributed by age group and gender. This data is crucial in differentiating the epidemiological situation and planning preventive

measures and medical resources. In the age group from 0 to 17 years, the incidence in this group remains relatively low, but some cancer cases, such as leukemia and central nervous system tumors, are still registered. In 2021, about 30 cases of cancer were registered among children in Almaty region, which is less than 1% of the total. In 2021, about 800 cases of cancer were registered. This is 32% of

the total incidences. Among the population over 65 years old, this is the highest rate. Based on the results of the incidence rate of rectal cancer by regions, the following can be classified as “unfavorable” districts: Enbekshikazakh, Zhambyl, and Ili; the “relatively unfavorable” districts include Karasay, Talgar, and Rayimbek; and the “favorable” districts include Balkhash and Uyghur districts (Figure 4).

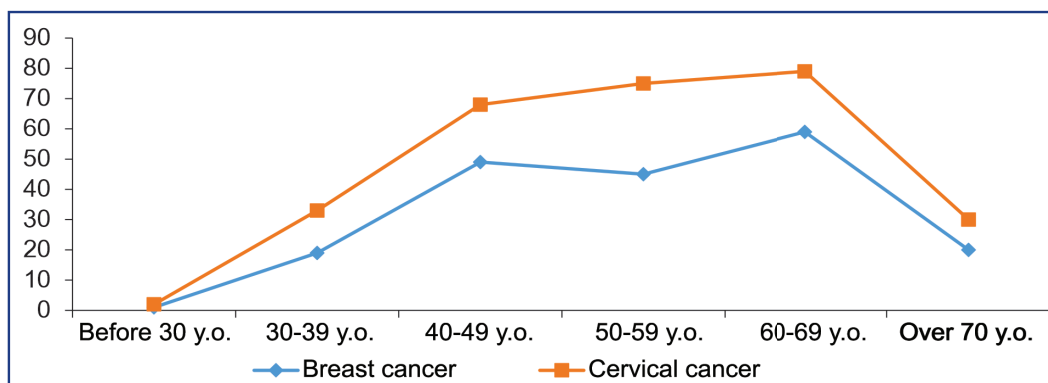


Figure 2 – Breast cancer and cervical cancer incidence in the southern part of Almaty region, 2019

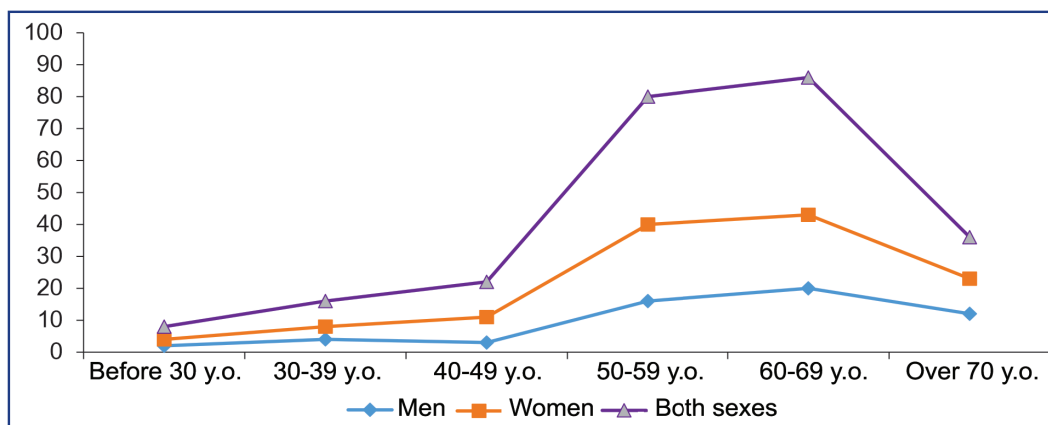


Figure 3 – Colon cancer incidence in the southern part of Almaty region by age and sex

Based on the analysis of breast cancer incidences, a rating of «unfavorable» districts was identified: Enbekshikazakh, Ili, Talgar; “relatively favorable” districts: Zhambyl, Karasay and Uyghur, and «favorable» districts: Balkhash and Rayimbek (Figure 5).

The «unfavorable» districts in assessing the epidemiological situation by the incidence of cervical cancer include Enbekshikazakh, Karasay, and Talgar; “relatively favorable” districts are Zhambyl, Balkhash, and Uyghur; and “favorable” districts are Ili and Rayimbek (Figure 6).

It is known that the incidence of rural populations is influenced by socio-economic, environmental, medical-demographic, and many other factors. During studies, we have become convinced of the importance of lifestyle and environmental risk factors.

However, it is hard to determine the exact impact of each of them individually. Therefore, we adopted a differentiated approach at the initial stage of this study. To be completely sure of this, it is necessary to conduct an individual statistical development of data on the incidence

of rural residents based on the characteristics of their socio-economic living conditions.

Many factors influence the development of malignant neoplasms. These include environmental pollution, radiation, rape conditions, hormonal changes in the body, and industrial zones. Another reason is vitamin deficiency. Genetics also plays a big role. One of the important factors in the development of the disease depends on age. For example, the risk of developing colon cancer among the population after 50 years doubles with each decade. All these factors are due to appropriate preventive measures, which include vaccination against oncogenic infections. By influencing these risk factors, it is possible to reduce the incidence and mortality of cancer. Screening coverage for cervical, breast, and colorectal cancer varies by region in the region. The analysis showed that despite a slight decrease in incidence rates and detection of precancerous conditions, the mortality rate does not decrease significantly. The results of the district rating by the level of general incidence of oncological diseases showed:

in the “unfavorable” districts such as the Enbekshikazakh, Ili, Karasay, and Talgar; in the “relatively favorable” districts

such as the Zhambyl and Uyghur, and “favorable” districts, including the Balkhash and Rayimbek.

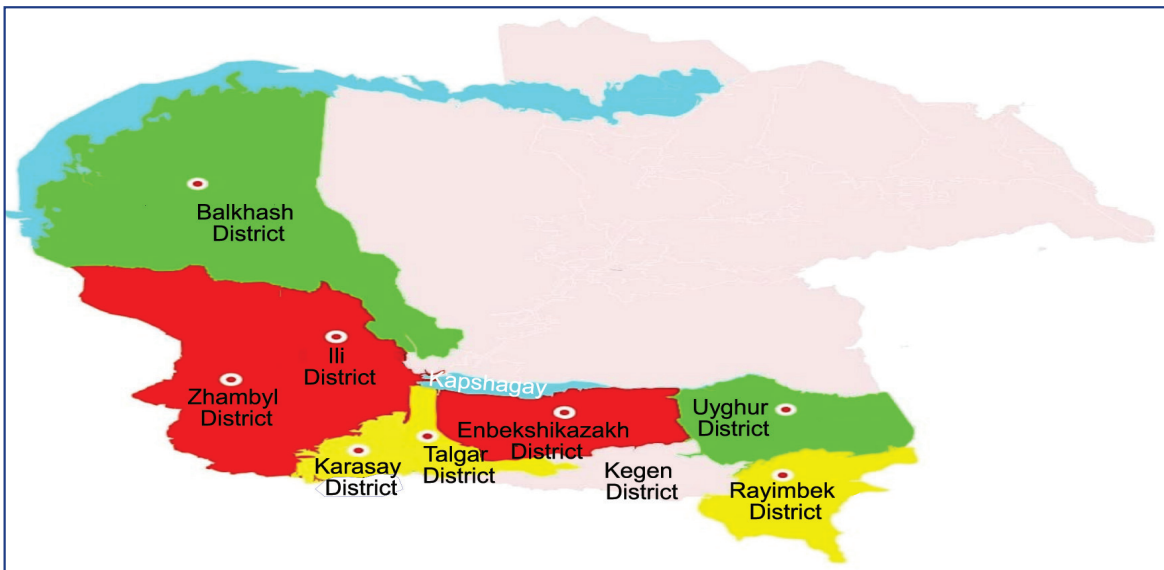


Figure 4 – Rating of incidence of rectal cancer in the Almaty region

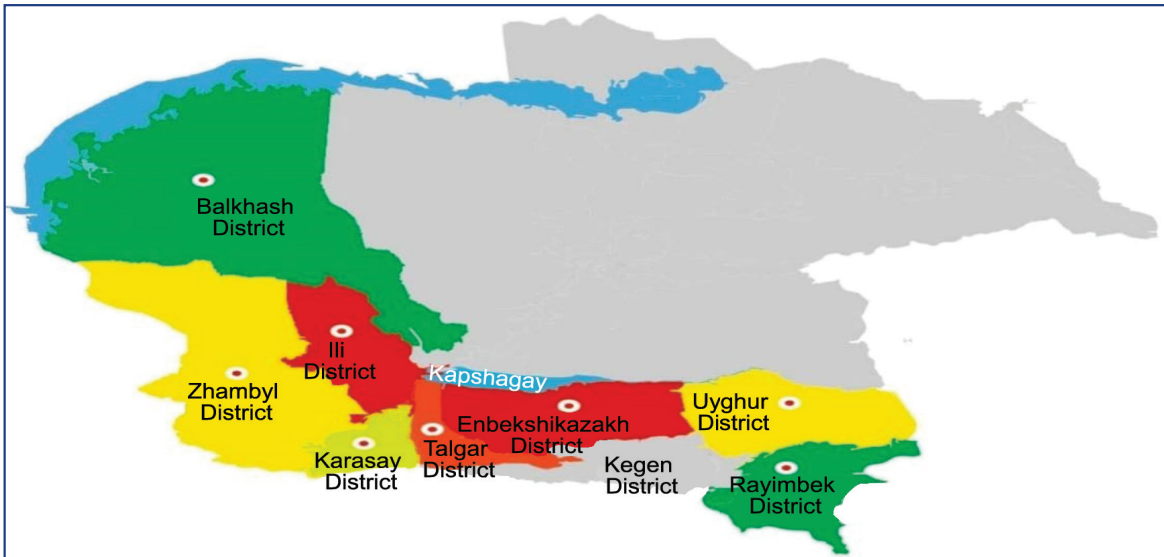


Figure 5 – Rating of districts by incidence of breast cancer

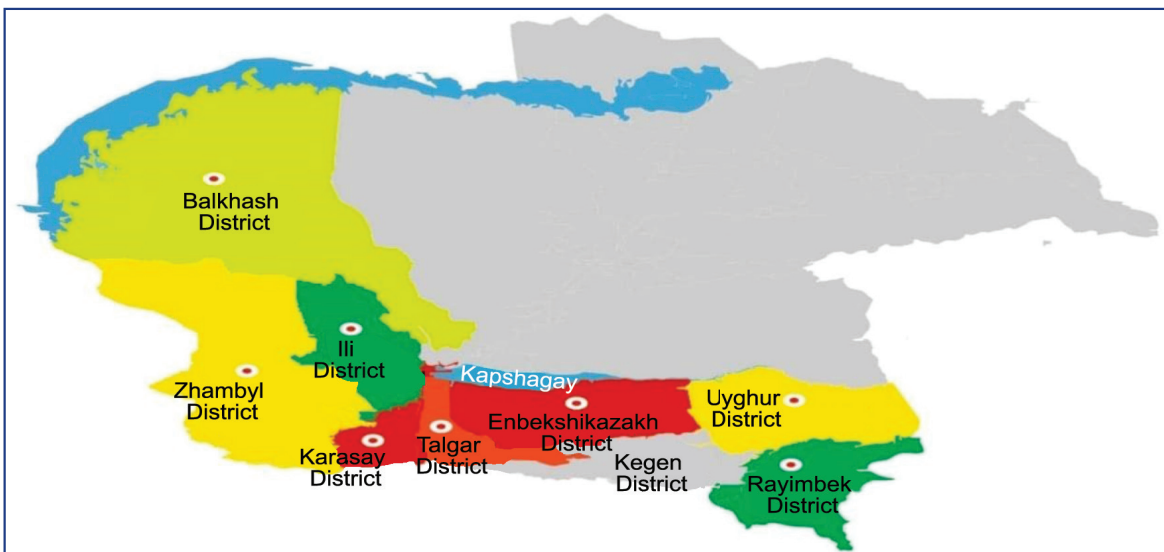


Figure 6 – Differentiation of districts by cervical cancer incidence

The analysis and study of specialized literature showed the relationship between various endogenous and exogenous risk factors affecting cancer development and the risk of developing the disease. In rural areas, oncological auras are a serious problem that requires attention. Comparative data from international studies again emphasize the need to develop effective strategies to improve diagnostic indicators, improve the availability of medical care, and implement preventive programs. This is especially true for rural residents of the Almaty region. Such studies can significantly improve health and reduce the incidence of cancer.

As a model of a protective factor, the well-being of cancer patients can serve as a risk factor. Among women, in most cases, household and socio-economic status as risk factors can further affect the stage of cancer and the effectiveness of therapy. Early diagnosis of cancer can increase the life expectancy of the disease.

Conclusion: Analysis of current data on cancer incidence and mortality provided by international and national sources shows that cancer remains one of the most pressing and complex public health problems worldwide. The results of epidemiological studies of cancer incidence in rural areas of the Almaty region show alarming trends, such as a steady increase in incidence and “rejuvenation” of cancer, especially among the working-age population. In this regard, to effectively manage the situation and improve its epidemiological situation in the region, it is necessary to focus the main work on stabilizing and further reducing the incidence among men and preventing the intensive growth of oncological pathology among women.

Despite significant advancements in cancer diagnostics and treatment, there remains a pressing need to enhance the prevention of known risk factors and improve the organizational framework of cancer care. Raising public awareness about cancer prevention methods and associated risk factors is crucial, particularly through widespread information and educational initiatives targeting rural communities. Enhancing access to medical services requires establishing mobile medical teams to conduct preventive examinations in remote and hard-to-reach areas.

Efforts should address modifiable risk factors such as smoking, poor nutrition, lack of physical activity, and exposure to harmful environmental factors. Additionally, greater emphasis should be placed on promoting regular preventive examinations and participation in screening programs for breast, cervical, and colorectal cancers. These measures significantly increase the likelihood of early detection.

Targeted interventions in high-incidence districts, including Enbekshikazakh, Ile, Karasay, and Talgar, underscore the importance of localized efforts in expanding and optimizing cancer screening programs. Such focused

strategies are essential for improving early diagnosis rates and reducing cancer burden.

References :

1. Mezhdunarodnoe agentstvo po izucheniju raka — onkologicheskoe agentstvo Vsemirnoj organizacii zdavoohraneniya. *Informacionnyj bjulleten'. Poslednie mirovyje dannye o rake – 2020* [International Agency for Research on Cancer is the cancer agency of the World Health Organization. Factsheet. Cancer data from around the world – 2020 (in Russ.)]. <http://vestnik.mednet.ru/content/view/1576/30/lang.ru/>
2. Ahmadullin R., Ajmyshev T., Zhahina G., Jerdosov S., Bejbetova A., Ablavaeva A., Binjazova A., Sejl T., Abdulakimova D., Segizbaeva A., Semenova Ju., Gaipov A. *Uglublennyy analiz i tendencii smertnosti ot raka v Kazahstane: sovmestnyj analiz obshhenacional'nyh dannyh o zdavoohranenii. 2014-2022 gody // Rak molochnoj zhelezy. – 2024. – №24(1). – S. 1340* [Ahmadullin R., Ajmyshev T., Zhakhina G., Erdosov S., Beibetova A., Ablavaeva A., Binyazova A., Sale T., Abdulakimova D., Segizbaeva A., Semenova Yu., Gaipov A. In-depth analysis and trends of cancer mortality in Kazakhstan: a joint analysis of national health data. 2014-2022 // *Breast cancer. – 2024. – Vol. 24 (1). – Art. no. 1340 (in Russ.)*]. <https://doi.org/10.1186/s12885-024-13128-2>
3. Brenner D.R., Weir H.K., Demers A.A., Ellison L.F., Louzado C., Shaw A., Turner D., Woods R.R., Smith L.M. *Canadian Cancer Statistics Advisory Committee. Projected estimates of cancer in Canada in 2020 // CMAJ. – 2020. – Vol. 192(9). – P. E199-E205. https://doi.org/10.1503/cmaj.191292.*
4. Siegel R.L., Miller K.D., Fuchs H.E., Jemal A. *Cancer statistics, 2022 // CA Cancer J. Clin. – 2022. – Vol. 72(1). – P. 7-33. https://doi.org/10.3322/caac.21708.*
5. Malvezzi M., Carioli G., Bertuccio P., Boffetta P., Levi F., La Vecchia C., Negri E. *European cancer mortality predictions for 2019 focus on breast cancer // Ann. Oncol. – 2019. – Vol. 30(5). – P. 781-787. https://doi.org/10.1093/annonc/mdz051.*
6. Ryzhov A., Korbek M., Pineros M., Barchuk A., Andreasyan D., Dzhanklich S. *Comparison of breast cancer and cervical cancer stage distributions in ten newly independent states of the former Soviet Union: a population-based study // Lancet Oncol. – 2021. – Vol. 22(3). – P. 361-369. https://doi.org/10.1016/S1473-0753(20)30674-4*
7. Musina D.S., Samarova U.S., Rahimzhanova F.S., Karabaev K.S., Ibraev S.E. *Ocenka sostojanija skringingovoj programmy na rannee vyjavlenie raka molochnoj zhelezy v Pavlodarskoj oblasti // Medicina (Almaty). – 2017. – №7(181). – S. 14-17 (in Russ.)]. <http://www.medzdrav.kz/images/magazine/medecine/2017/2017-07/3.pdf>*
8. Battakova Zh.E., Tokmurzieva G.Zh., Slazhnjova T.I., Sajdamarova T.K. *Nacional'naja skringingovaja programma – krupnyj innovacionnyj proekt zdavoohraneniya Kazahstana // NAU. – 2015. – №7. – S. 2-8* [Battakova Zh.E., Tokmurzieva G.Zh., Slazhneva T.I., Saidamarova T.K. *National screening program – a major innovative healthcare project in Kazakhstan // NAU. – 2015. – Vol. 7. – P. 2-8 (in Russ.)*]. <https://cyberleninka.ru/article/n/natsionalnaya-skriningovaya-programma-krupnyj-innovatsionnyj-proekt-zdavoohraneniya-kazahstana>
9. Ibraeva Zh.B., Hismetova Z.A. *Realizacija skringingovyh programm v Kazahstane na sovremennom jetape // Nauka i zdorov'e. – 2012. – №5. – S. 12-13* [Ibraeva Zh.B., Khismetova Z.A. *Implementation of screening programs in Kazakhstan at the present stage // Science and Health. – 2012. – Vol. 5. – P. 12-13 (in Russ.)*]. https://newjournal.ssmu.kz/upload/iblock/939/12_13_5_2012.pdf
10. Sung H., Ferlay J., Siegel R.L., Laversanne M., Soerjomataram I., Jemal A., Bray F. *Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries // CA Cancer J. Clin. – 2021. – Vol. 71(3). – P. 209-249. https://doi.org/10.3322/caac.21660.*
11. *Statisticheskij bjulleten' Bjuro nacional'noj statistiki agentstva po strategicheskomu planirovaniju i reformam RK. Chislennost' naselenija Respubliki Kazahstan (na 01 oktyabrya 2024g.)* [Statistical Bulletin of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. Population of the Republic of Kazakhstan (as of October 1, 2024) (in Russ.)]. https://stat.gov.kz/ru/industries/social-statistics/demography/publications/184901/?sphrase_id=78214
12. Ohri A., Robinson A., Liu B., Bhuket T., Wong R. *Updated Assessment of Colorectal Cancer Incidence in the U.S. by Age, Sex, and Race/Ethnicity // Dig. Dis. Sci. – 2020. – Vol. 65(6). – P. 1838-1849. https://doi.org/10.1007/s10620-019-05913-y*
13. Akram M., Iqbal M., Daniyal M., Khan A.U. *Awareness and current knowledge of breast cancer // Biol. Res. – 2017. – Vol. 50(1). – P. 33. https://doi.org/10.1186/s40659-017-0140-9*

14. Igissinov N., Toguzbayeva A., Khamidullina Z., Telmanova Z., Bilyalova Z., Kudaibergenova I., Muratbekova S., Igissinova G., Rustemova K., Kulmirzayeva D., Syzdykov N., Tazhyanov R., Turebayev D., Orazova G., Kassenova D., Detochkina V., Baibosynov

D., Kuandykov Y. Epidemiology of Breast Cancer Mortality in Kazakhstan, trends and Geographic Distribution // Asian Pacific J. Cancer Prev. – 2023. – Vol. 24(10). – P. 3361-3371. <https://doi.org/10.31557/APJCP.2023.24.10.3361>

АНДАТПА

АЛМАТЫ ОБЛЫСЫНДАҒЫ АУЫЛ ТҰРҒЫНДАРЫНЫҢ ОНКОЛОГИЯЛЫҚ АУРУ-ШАҢДЫЛЫҒЫН ЭПИДЕМИОЛОГИЯЛЫҚ БАҒАЛАУ

Л.Ж. Оракбай¹, С.К. Карабалин¹, К.Б. Шегирбаева², А.Н. Адилханова¹,
Ж.Б. Бейсенбинова³, Э.И. Кусайынова³, А.К. Текманова³

¹МЕББМ «Қазақстан-Ресей медициналық университеті», Алматы, Қазақстан Республикасы;
²«Еңбек медицинасы, кәсіптік патология және өнеркәсіптік экология институты» мекемесі, Алматы, Қазақстан Республикасы;
³КЕАҚ «С. Ж. Асфендияров атындағы Қазақ Ұлттық медицина университеті», Алматы, Қазақстан Республикасы

Өзектілігі: Соңғы жылдары Қазақстанда онкологиялық аурулардың өсуі байқалады. Бұл тақырыптың өзектілігі ауылдық жерлердегі аурудың себептері мен динамикасын зерттеу қажеттілігіне байланысты. Қазақстанның аудандарында онкологиялық ауруларды диагностикалау, емдеу медициналық қызметтердің қолжетімділігінің төмен деңгейімен ерекшеленеді. Медициналық көмектің жеткіліксіздігі, күрделі әлеуметтік-экономикалық жағдайлар және қоршаған ортаға зиянды факторлардың әсер етуі ауыл тұрғындарын аурушаңдылыққа әкелуде. Денсаулық сақтауда тиісті басқару шешімдерін қабылдау үшін онкологиялық аурушаңдылық деңгейі мен ерекшеліктері туралы сенімді деректер қажет. Өңірдегі эпидемиологиялық талдау ресурстарды бөлуді оңтайландырады. Ол ауыл тұрғындары үшін онкологиялық көмектің қолжетімділігі мен сапасын жақсартуға мүмкіндік береді.

Зерттеудің мақсаты – Алматы облысының ауыл тұрғындарының онкологиялық аурушаңдылығын эпидемиологиялық бағалау.

Материалдар мен әдістер: Алматы облысының онкологиялық қызметінің көрсеткіштеріне, қатерлі ісіктермен сырқаттанушылық бойынша материалдар мен көрсеткіштерге статистикалық оңдеу жүргізе отырып, скринингтік бағдарламаның (2015-2020 жж.) нәтижелері бойынша ретроспективті талдау жүргізілді

Нәтижелері: мақалада аурушаңдық пен қатерлі ісікке дейінгі жағдайлардың аздап төмендеуіне қарамастан, өлім-жітім айтарлықтай төмендемейтіні көрсетілген. Қатерлі ісіктердің жалпы аурушаңдылығы бойынша аудандарды саралауды талдау қолайсыз "аудандарға Еңбекшіқазақ, Іле, Қарасай және Талғар;" салыстырмалы түрде қолайсыз "Жамбыл және Ұйғыр;" ал "қолайлы" Балқаш және Райымбек аудандары жататынын анықтады. Алматы облысында қатерлі ісіктермен аурушаңдылықтың барлық дерлік таралуының артуы еңбекке қабілетті халық арасында жағдайлардың көбеюімен және аурудың жасаруымен байланысты.

Қорытынды: Алматы облысының ауыл тұрғындарының қатерлі ісіктермен аурушаңдылығының сипаты мен үрдістерін эпидемиологиялық зерттеу нәтижелерін жалпылау жағдайды өзгерту бойынша басқарушылық күш-жігердің негізгі бағыттарын тұжырымдауға мүмкіндік береді. Алматы облысы бойынша қатерлі ісік ауруы бойынша аурушаңдығы көрсеткішінің өсуіне назар аудару қажет (өсу қарқыны – 0,5%). Алматы облысында қатерлі ісіктермен аурушаңдылық барлық таралуына қарай халықтың еңбекке қабілетті бөлігінің аурушаңдылығының қарқынды өсуіне, оның "жасаруына" байланысты. Сондықтан 40-60 жас аралығындағы алдын-алу және ерте диагностика жоғары қауіпті топтардың қалыптасуымен аурушаңдылық пен өлім-жітімнің төмендеуіне әкелуі керек.

Түйінді сөздер: халықтың денсаулығы, аурушаңдылық, эпидемиологиялық бағалау, скрининг, онкологиялық сақтық, алдын алу, қатерлі ісіктің ерте диагностикасы.

АННОТАЦИЯ

ЭПИДЕМИОЛОГИЧЕСКАЯ ОЦЕНКА ОНКОЗАБОЛЕВАЕМОСТИ СЕЛЬСКОГО НАСЕЛЕНИЯ АЛМАТИНСКОЙ ОБЛАСТИ

Л.Ж. ОРАКБАЙ¹, С.К. КАРАБАЛИН¹, К.Б. ШЕГИРБАЕВА¹, А.Н. АДИЛХАНОВА¹,
Ж.Б. БЕЙСЕНБИНОВА², Э.И. КУСАЙЫНОВА³, А.К. ТЕКМАНОВА³

¹НУО «Казахстанско-Российский медицинский университет», Алматы, Республика Казахстан;
²НАО «Казахский национальный медицинский университет им. С.Д. Асфендиярова», Алматы, Республика Казахстан

Актуальность: За последние десятилетия в Казахстане наблюдается рост онкологических заболеваний, что становится серьезной медико-социальной проблемой. Актуальность этой темы обусловлена необходимостью исследования причин и динамики заболеваемости в различных регионах, включая сельскую местность. Сельские районы Казахстана отличаются более низким уровнем доступности медицинских услуг, включая диагностику и лечение онкологических заболеваний. Недостаточное медицинское обслуживание, сложные социально-экономические условия и возможное воздействие вредных факторов окружающей среды делают сельское население более уязвимым перед заболеваниями, включая рак. Для принятия адекватных управленческих решений в здравоохранении необходимы достоверные данные об уровне и особенностях онкозаболеваемости. Эпидемиологический анализ в разрезе региона позволит оптимизировать распределение ресурсов, улучшить доступность и качество онкологической помощи для сельского населения Алматинской области.

Цель исследования – эпидемиологическая оценка онкозаболеваемости сельского населения Алматинской области.

Методы: Проведен ретроспективный анализ показателей онкологической службы Алматинской области, материалов по заболеваемости злокачественными новообразованиями (ЗНО) по результатам скрининговой программы (2015-2020 гг.) и статистическая обработка показателей.

Результаты: Несмотря на небольшое снижение заболеваемости и предраковых состояний, уровень смертности от злокачественных новообразований среди сельского населения Алматинской области существенно не снижается. Анализ ранжирования районов по общей заболеваемости злокачественных новообразований выявил, что к «неблагополучным» районам относятся Енбекшиказахский, Илийский, Карасайский и Талгарский; к «относительно благополучным» — Жамбылский и Уйгурский; а к «благополучным» — Балхашский и Райымбекский. Рост заболеваемости злокачественных новообразований почти всех локализаций среди населения Алматинской области связан с увеличением числа случаев среди трудоспособного населения и омоложением болезни.

Заключение: Обобщение результатов эпидемиологического исследования характера и тенденций заболеваемости злокачественных новообразований сельского населения Алматинской области позволяет сформулировать основные направления управленческих усилий по изменению ситуации. Необходимо обратить внимание на рост показателя заболеваемости ЗНО по Алматинской области (темп прироста – 0,5%). Заболеваемость ЗНО в Алматинской области практически всех локализаций обусловлена интенсивным ростом заболеваемости трудоспособной части населения, ее «омоложением». Поэтому профилактика и ранняя диагностика в возрасте 40-60 лет с формированием групп повышенного риска должна вести к снижению заболеваемости и смертности.

Ключевые слова: здоровье населения, заболеваемость, эпидемиологическая оценка, скрининг, онконастороженность, профилактика, ранняя диагностика рака.

Transparency of the study: Authors take full responsibility for the content of this manuscript.

Conflict of interest: Authors declare no conflict of interest.

Financing: Authors declare no financing for the study.

Authors' input: contribution to the study concept – S.K. Karabalin; study design – L.J. Orakbai, execution of the study – K.B. Shegirbayeva, A.N. Adilkhanova, interpretation of the study – J.B. Beysenbinova, preparation of the manuscript – E.I. Kussaiynova, A.K. Tekmanova.

Authors' data:

L.J. Orakbai – Doctor of Medical Sciences, Professor, Head of the Hygiene and Epidemiology Department, Kazakh-Russian Medical University, Almaty, Kazakhstan, tel. +77757204572, e-mail: orakbai@medkrmu.kz, ORCID: 0000-0002-0365-0979;

S.K. Karabalin – Doctor of Medical Sciences, Professor, Professor at the Hygiene and Epidemiology Department, Kazakh-Russian Medical University, Almaty, Kazakhstan, tel. +77077386127, e-mail: serik.sk@inbox.ru, ORCID: 0000-0002-5557-2511;

K.B. Shegirbayeva – Deputy Director for Education, Institute of Occupational Medicine, Professional Pathology and Industrial Ecology, Almaty, Republic of Kazakhstan, tel. +77757204572, e-mail: shegirbaeva-k@mail.ru, ORCID: 0009-0001-9014-925X;

A.N. Adilkhanova – Candidate of Medical Sciences, Associate Professor at the Hygiene and Epidemiology Department, Kazakh-Russian Medical University, Almaty, Kazakhstan, tel. +77757204572, e-mail: adilkhanova.azhar@mail.ru, ORCID: 0000-0001-8152-9288;

J.B. Beysenbinova – Assistant to the Professor at the Epidemiology Department with a course on HIV Infection and Infection Control, Asfendiyarov Kazakh National Medical University, Almaty, Kazakhstan, tel. +77473851357, e-mail: beysenbinova.z@kaznmu.kz, ORCID: 0000-0003-3984-1504;

E.I. Kussaiynova – Assistant to the Professor at the Public Healthcare Department, Asfendiyarov Kazakh National Medical University, Almaty, Kazakhstan, tel. +77752867270, e-mail: izbasarovna.emira@mail.ru, ORCID: 0000-0001-6169-9204;

A.K. Tekmanova (corresponding author) – Candidate of Medical Sciences, Associate Professor without academic title at Public Health Department, Asfendiyarov Kazakh National Medical University, Almaty, Kazakhstan, tel. +77471225380, e-mail: tekmanova2014@mail.ru, ORCID: 0000-0002-2347-3359.

Address for correspondence: A.K. Tekmanova, Asfendiyarov Kazakh National Medical University, Tole bi St. 99, Almaty 050012, the Republic of Kazakhstan.