

REGIONAL SPECIFICS OF ONCOLOGICAL PATHOLOGY FORMATION IN ADULT POPULATION

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Kazakhstan, likewise many developed countries of the world, is characterized by tendency to steady increase in cases of malignant tumor morbidity and mortality resulting from it. A significant level of mortality from malignant tumors is due to such factors like the prevailing lifestyle features of the population; the high prevalence of behavioral risk factors, the development of chronic non-communicable diseases, including cancer; a change in the age structure of the population with an increase of the older age groups in the population proportion; late appeal of citizens for medical assistance; insufficient tumor detectability at early stages; faults in the patient routing with detected oncological disease or suspicion of it, other faults in providing a specialized assistance. The priority direction in solving the problems of prevention and early diagnosis of malignant tumors is the improvement of oncological alertness and thematic training in clinical oncology and preventive medicine of healthcare system's primary care physicians. Formation of oncological alertness in the population is also of great importance for the early diagnosticating of oncological pathology. Among the causes of neglect, the first place in frequency is occupied by citizens untimely seeking medical assistance. Systematically conducted screening aimed at early detection, timely diagnosticating and standardization of treatment tactics will reduce the mortality rate from malignant tumors in our country.

Keywords: population health, morbidity, screening, oncopathology, prevention, early cancer diagnosticating

Materials and research methods

Indicators of the oncological service of the Republic of Kazakhstan and Almaty region, data on the incidence of malignant tumors, the results of the screening program, data analysis, statistical processing of indicators.

Research results and discussion

Kazakhstan, likewise many developed countries of the world, is characterized by tendency to steady increase in cases of malignant tumor morbidity and mortality resulting from it. The priority problems of public health and healthcare at the present stage include the issues of incidence, disability and mortality caused by malignant tumors. In the structure of mortality of the population of our country, malignant tumors rates are the third after cardiovascular system diseases.

High morbidity, disability and mortality rates, the difficulties of diagnosticating, the need for mass preventive measures, complex and expensive treatment allow refer malignant tumors to the socially significant problems of contemporary society.

According to world statistics, up to 89% of new cases of malignant tumors are diagnosed among people aged 50 and older, of which 43% – aged 70 and older, 28% – aged 60-69 and 18% – 50-59 years old. In the USA more than 60% of all cancer cases and 80% of their deaths occur in patients who are 65 or older. In the structure of mortality in the European Union countries, malignant tumors rank second after blood circulatory system diseases (38%), caus-

ing 26% of deaths in the population and being the main cause of death in the age group from 40 to 74 years. Among those who died between the ages of 55 and 69, the proportion of deaths from malignant tumors reaches 44–45%. In 28 European countries, chiefly in the western part of the region, tumors have already taken the place of blood circulatory system diseases as the leading cause of premature death [3,4].

High rates of mortality from malignant tumors are one of the negative trends in the dynamics of the health status of the country population. According to the Statistics Committee of the Republic of Kazakhstan in 2017, in the mortality structure, malignant tumors ranked third (83.9 per 100,000 population) after blood circulatory system diseases (174.83 per 100 thousand people) and respiratory diseases (92.22 per 100 thousand population) which is higher than mortality from injuries and poisoning (69.38 per 100 thousand population). In 2016, 15,763 people died, of whom 48.3% are persons of working age [5].

A significant level of mortality from malignant tumors is due to such factors like the prevailing lifestyle features of the population; the high prevalence of behavioral risk factors, the development of chronic non-communicable diseases, including cancer; a change in the age structure of the population with an increase of the older age groups in the population proportion; late appeal of citizens for medical assistance; insufficient tumor detectability at early stages; faults in the patient routing with detected oncological disease or suspicion of it, other faults in providing a specialized assistance.

The most important factor in increasing the life expectancy of the population, improving health, preserving the working capacity and active longevity of the population is the prevention of diseases. The reorientation of healthcare to the path of prevention already today allows us to provide the population with technologies based on an individual-mass approach to detect precancer and malignant tumors, their pre-nosology diagnostics and timely correction of the functional state. In this regard, special attention should be paid to the implementation of the National Screening Program, which plays an important role in the early detection of both the diseases themselves and the risk factors contributing to their development [6].

For the first time in 2009, the first three screenings were introduced in Kazakhstan – for early diagnosis of arterial hypertension, breast cancer and cervical cancer. Within the framework of the state program “Health”, developed for 2016-2019, a set of measures for health protection and prevention of diseases is being implemented. For the early detection of diseases among the population, The National Screening Program is being implemented, which includes 7 types of preventive medical examination of the target population groups. These are examinations of the child population, which are held annually under the age of 18 years; identification of behavioral risk factors (smoking, alcohol consumption, low physical activity, poor diet) – performed 1 time in 2 years among the population aged 30-70 years; cervical cancer screening is carried out with a frequency of 1 time every 4 years; women between the ages of 30 and 70 years must undergo the examination; breast cancer screening, which is conducted with a frequency of 1 time every 4 years for women aged 40 to 70 years; screening of arterial hypertension, coronary heart disease and diabetes are carried out with a frequency of 1 time in 2 years; men and women aged 40 to 70 years are subject to the medical check-ups.

The National Screening Program is a large innovative health-care project in Kazakhstan [7].

An important component that provides the organizational and economic mechanism for the development of the industry is the introduction of innovative projects and the transfer of advanced technologies of medical care to the General Health Care System. In the new principles of social policy of Kazakhstan, defined by the strategy “Kazakhstan-2050”, health care is the main national priority due to its special status of preservation of human capital [8]. In-

vestment in health care is a contribution to the future of the country and this is due to the fact that the country’s health care system affects all members of society, it is an important factor in the growth of economic development and national security of the state, the role of preserving public health in the successful development of the country rapidly multiplies.

Properly managed clinical examination can provide a significant, up to 30%, contribution to reducing the overall population mortality, including mortality from malignant tumors.

Combining preventive and therapeutic orientation, preventive medical examination is most effective for diseases for which, considering the principles of evidence-based medicine, methods of early diagnosing using high-tech methods of research and screening, have been developed and recommended by international medical expert communities.

The main focus in fighting chronic non-communicable diseases is the formation of a healthy lifestyle. According to various estimates, if we take the level of health for 100%, then the state of human health depends by 50-55% on the way of life, by 20% on the environment conditions, by 18-20% on genetic predisposition, and only by 8-10% on health [7-8].

The priority direction in solving the problems of prevention and early diagnosis of malignant tumors is the improvement of oncological alertness and thematic training in clinical oncology and preventive medicine of healthcare system’s primary care physicians. Formation of oncological alertness in the population is also of great importance for the early diagnosing of oncological pathology. Among the causes of neglect, the first place in frequency is occupied by citizens untimely seeking medical assistance.

Despite advances achieved in the world for reducing morbidity and mortality rates due to malignant tumors a tendency for the increase in morbidity cases still maintains in Kazakhstan.

Unitary Enterprise based on the Right of Economic Management ‘Almaty regional oncological dispensary’ serves the territory of Almaty region in the Southern area, 10 rural districts with total population number of 1,357,507 people. The number of cancer patients registered in 2018 is 8,473. In total, there are 105 female and 44 male patient examination rooms in polyclinics of the central district hospitals. The total number of women who visited polyclinic in 2018, of whom 136,568 visited female patient examination rooms makes 670,280 the number of women examined with the application of cytology made 87,323. Male patient

examination rooms were visited by 96,907 men out of total 427,864 who visited polyclinic. The precancer was detected in 4,458 men, cancer was detected in 29 cases, and in 9,221 men other diseases were detected.

According to the analysis of the screening programs implementation in 2018, in the southern area of Almaty region breast cancer (15,0%) is disease number in the malignant tumor morbidity structure, lungs cancer (10,0%) is the second to it, then goes stomach cancer (8,0%), and cervical cancer which ranks fourth making 7.1% of all localizations.

On average, over the 3-year study period, the level of detectability of uterine cervix premalignancy in the southern region of Almaty region is slightly lower compared to the national indicator (by 0.9%). This fact indicates a high level of alertness and diagnosing in the polyclinic, as well as a high level of cancer incidence of the attached population caused by risk factors. Target groups coverage by screening types equals to: mammographic – 53,016 people (99%), cytological – 68,911 people (97%) and colorectal – 59,081 people (100%). Colorectal screening is one of screening types which has proven its efficiency in multiple randomized studies.

Colorectal screening results allowed to detect positive hemoculture test in 504 persons in 2018, in 477 cases colonoscopy was carried out, out of which colorectal carcinoma was histologically verified in 23 cases, including 10 cases of I and II stages respectively, 2 cases of III and 1 case of IV stage.

According to the results of mammographic screening in 52,535 women, a study was conducted within the target group, out of which breast carcinoma was histologically verified in 58 cases including 27 cases of stage Ia, 19 and 7 cases of respectively II a and II b stages, 3 and 2 cases of III and stage IV.

In 2018, in general, in the southern area of Almaty region, a cytological examination of smears was performed in 100% of the examined women, with pathological changes detected in 12.9% of cases, including:

- ASC-H – 2.1% cases;
- LSIL – 7.0% cases;
- HSIL – 3.8% cases;

Colposcopic studies were performed in 0.02% of the total number of women examined. A biopsy was performed in 0.14% of all cases examined. These studies allowed to detect:

- CIN I – 0.13%;
- CIN II – 0.21%;
- CIN III – 0.04%;
- AIS – 0%.

According to the ECCA (European Cervical Cancer Association) in Belgium, about 70% of the female population regularly undergo cervical cancer screening, in Denmark this rate is 75%, in France – about 60%. High percentages indicate the responsible attitude to their own health in Europe. And through conducting breast cancer screening in the developed world in 80% of cases, the disease is diagnosed at an early stage, when a complete cure is possible. All types of screening are carried out in the absence of any symptoms of the disease – just to be confident about their health status [11].

Analysis conducted by age groups indicated that the greatest detectability of uterine cervix premalignancy is observed at the age of 40-49 and 35-39. Analysis of the structure of the identified cervical cancer by stages indicated that 53.3% fall at stage I, while 46.6% – at stage II.

Thus, in the Southern area of Almaty region there is an annual increase in cancer patients, so in 2016, 7,272 patients were registered, in 2017 – 7,916, in 2018 – 8,473 patients. Increase in notification rate is equal to 4.8%, decrease in mortality index – by 1.6% and the number of newly diagnosed patients with I – II stage increased by -1.8%. A decrease in the number of newly diagnosed patients is noted with malignant tumor stage IV: if the absolute number of patients in 2017 was 203, then in 2018 it was 191.

Conclusion

To improve the accessibility of oncological assistance to healthcare institutions providing oncological assistance to the population of the Republic of Kazakhstan, the efficiency of functioning examination rooms shall be enhanced, the number of which should correspond to the number of existing Primary Health Care Institutions. In the first turn, this is the work with primary medical and sanitary staff, when already at the level of the district physician the first signs of cancer are determined, after which the patient is referred for a more detailed examination to a specialist physician. Training of specialists is also one of the tasks, the solution of which will speed up the stages of the patients' examination and reduce the burden on working oncologists. Various educational events are organized for Primary Health Care specialists regularly, for example, 'Pink Ribbon', during which women at various medical organizations undergo an unscheduled examination of specialists such as a mammologist, oncologist, gynecologist, and self-diagnostics of breast pathologies.

In general, the inculcation of healthy lifestyle to the population, raising non-smoking, no-alcohol abuse attitude in the population is one of the main ways to combat cancer.

Accurate fulfillment of functional duties by physicians, interaction of all participants of the screening program will improve the effectiveness, acceptability, safety and effectiveness of the screening program in Kazakhstan. In the long term, mammographic screening should reduce breast cancer mortality in our country by 25% and reduce the difference in five-year survival rates between regions and areas of the Republic of Kazakhstan by 5%.

Thus, to date, established focus groups provide screening studies and proves its effectiveness: in the country has been increased the diagnosis of malignant neoplasms at the early stages, as well as precancerous conditions, arterial hypertension and ischemic heart disease; approved Rules for conducting preventive medical examinations of target groups of the population, approved by orders of the Ministry of Health of the Republic of Kazakhstan No. 685, No. 145 indicate sufficient standardization of screening research processes.

The issues of effective pre-tumor diseases prophylaxis were included in The National Screening Programs. Compared to the cost of intensive chemotherapy for an advanced cancer case using a large number of drugs, screening is a cheaper measure. According to this, in order to reduce the number of neglected cases of malignant neoplasms in Kazakhstan at the level of PHC, a system of additional payment to the salary (stimulating component to the per capita standard) for certain indicators has been introduced. Funds from the national budget are allocated for this motivation of primary health care specialists. One of the main indicators is the neglected cases of malignant neoplasms of visual localization of stage 3-4. The majority of the population (up to 95%) with the revealed diseases are further subject to medical examination with carrying out active medical and preventive measures. At the same time, it

should be noted that the quality of preventive examinations does not always ensure the detection of all patients in the early stages of the disease and probably differs in the regions of Kazakhstan.

Systematically conducted screening aimed at early detection, timely diagnosticating and standardization of treatment tactics will reduce the mortality rate from malignant tumors in our country.

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