

**DYNAMICS OF MORTALITY OF PATIENTS FROM CANCER OF THE ORAL CAVITY
AND OROPHARYNX IN THE REPUBLIC OF UZBEKISTAN. EPIDEMIOLOGICAL
ANALYSIS****Ganiev A.A.*, Abdikhakimov A.N., Kholmatova M.A., Gafur-Akhunov M.A., and Alieva D.A.**Tashkent Regional Branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and
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Article Received on 06/01/2021

Article Revised on 27/01/2021

Article Accepted on 17/02/2021

The growing interest in epidemiological studies with the identification of possible territorial features of the development and outcome of malignant neoplasms (malignancies) of various localizations determines the need to study the main indicators of morbidity and mortality for each individual territorial unit. The conduct of these studies should include a comprehensive analysis of various statistical indicators in dynamics, with the study of temporal, territorial features, as well as possible differences by gender.

According to Globocan, in 2012. the largest number of deaths from cancer of the oral cavity and oropharynx (OCC and OF) was noted in Asia - 195 005, of which 62 860 (66.16%) were men, 32 145 (33.83%) were women, the sex ratio of the deceased from OCC in Asian countries was 1.95. The largest number of deaths was recorded in India - 52 067, China - 11 337, Pakistan - 7 766, Bangladesh - 6 571 and Japan - 3 994, a total of 80 731 cases (84.97%) of deaths were recorded in these five countries.^[1,4] When standardizing the mortality rate from RPR, the highest among these countries were: Pakistan - 5.9; Bangladesh - 5.6; Afghanistan - 5.1; India - 4.9; Maldives - 4.1 per 100 thousand people, and the lowest: Qatar, Kuwait, Bahrain, Oman - 0.4 and the United Arab Emirates - 0.5 per 100 thousand people (Fig. 1)^[1,5]

According to EUCAN indicators of mortality and on the OCC and OF in the European Union in 2012 were high in Hungary (12.5), Slovakia (10.2) and Romania (9.1), among men - in Hungary (23.1), Slovakia (19.8) and Romania (17.9), and for women - in Hungary (3.7), Bulgaria (3.7) and Slovakia (2.3) per 100,000 person-years respectively.^[2,3]

Thus, the analysis showed that OCC is among the top ten causes of death in Hungary (World Life Expect Agency); Hungary also got the 3rd place in the world in deaths from OCC and Slovakia 7th place at 100000 population. Over the last few years it marked a significant increase in mortality and on the OCC among women most and Eastern Europe. Thus, in Belarus observed 61% increase when compared with the index in 2007 in Romania and - 31%, in Slovenia - 37%, in Moldova - 31%, in Slovakia - 59%, in

Hungary - 68%, in Bulgaria - 31%.^[2,3,4] As the world data shows, mortality from OCC tends to increase, which is especially characteristic for some Asian countries and the European Union, this is most likely due to the presence of risk factors, such as HPV infection, behavioral patterns among young males, and consumption a large amount of alcohol, and in Asian countries smoking tobacco, cigars and other smoking mixtures. With the combined effects of various carcinogenic factors - alcohol + cigarettes (smoking) + HPV infection, the course of OCC is even more severe, causing the rapid spread and metastasis of the process, which, given the complexity of the anatomical structure and the many structures included in this localization, makes it impossible to conduct adequate treatment, which explains high mortality rates.

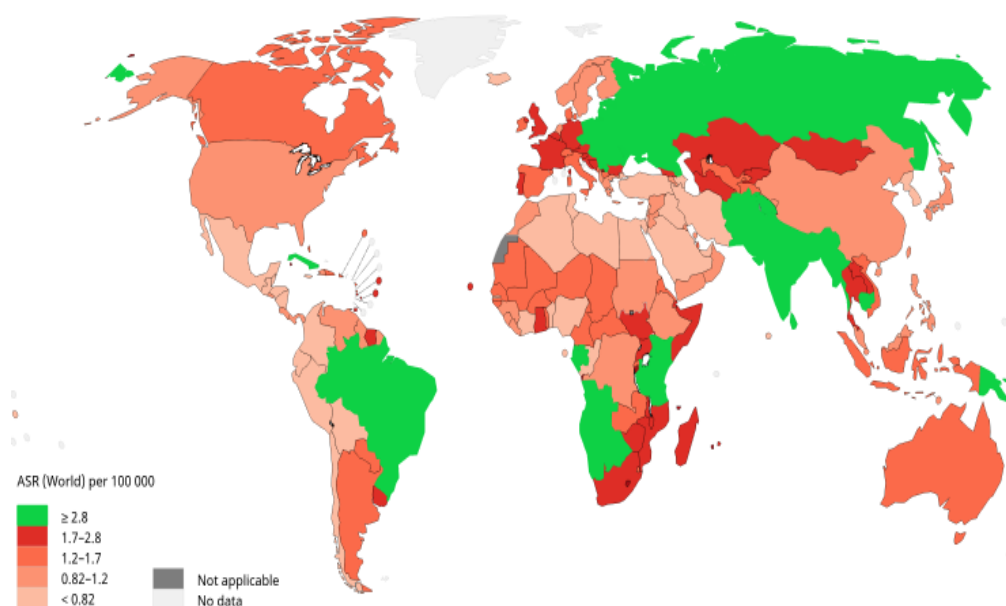


Fig. 1: OCC mortality worldwide.

(2018, data from Globocan, www.gco.iart.fr)

In order to conduct an epidemiological analysis of mortality from OCC in the Republic of Uzbekistan, a calculation of indicators over a 10-year period was carried out in dynamics, separately for each region and for the whole country.

MATERIALS AND METHODS: «rough» and «standardized» indicators of mortality from OCC, their trends and dynamic changes for the period from 2008-2017 were studied with a miscalculation of the forecast of mortality for 2020, 2030, 2050. Based on materials obtained from the data of the State Committee for Statistics of the Republic of Uzbekistan, reporting and accounting documentation for malignant neoplasms (form 7-SSV).

Knowledge of the main epidemiological indicators of OCC, and in particular mortality, changes in territorial units will allow us to approach the search for the causative factors of the development of the disease and the main causes of death, which in turn will help to find ways to eradicate them and achieve stabilization of the process.

RESULTS AND DISCUSSION

research conducted for the period from 2008-2017 showed that the number of patients who died from OCC was 4770, of which 2972 were men (62.3%), 1798 women (37.7%). The distribution of deceased patients from OCC by region of the republic (specific gravity) represented in figure 2.

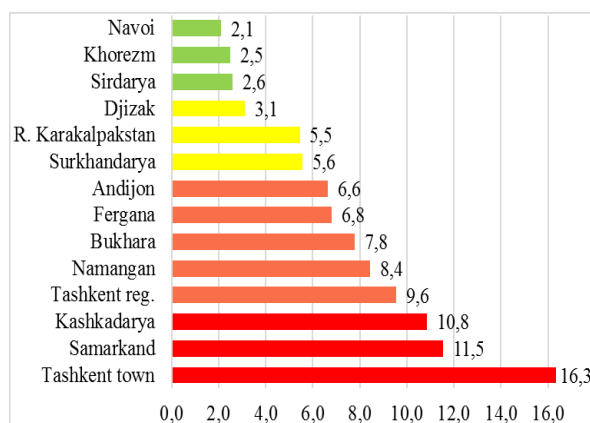


Fig. 2: The share of deaths of patients with OCC and their distribution by area Republic of Uzbekistan.

As can be seen from figure 2, the largest number of dead patients from OCC was noted in Tashkent - 16.3%; Samarkand - 11.5%; Kashkadarya regions - 10.8%. In Tashkent, Namangan, Bukhara, Fergana, Andijan regions, the ratio of deaths of patients was 9.6-6.6%; the average specific weight of 5.6-3.1% was observed in Surkhondaryo, Djizak regions and the Republic of Karakalpakstan; the lowest share - Syrdarya, Khorezm and Navoi regions of 2.6-2.1%. The number of deceased patients is the highest in the Tashkent city, where there is a high level of urbanization, as well as in areas that currently belong to the free economic zone, which is associated with a high concentration in these regions of various industrial and industrial structures (factories, factories, various industries), which causes the presence of high carcinogenic risks associated with production.; Another possible reason is the increased migration, mainly of the male population, to the CIS countries in order to earn money (an increase in the viral load), in addition, in many areas there are a large number

of men and women who use homemade smoking tobacco-nasvai, which affects the oral mucosa, causing the formation of small cracks, ulcers, followed by their malignancy. The average age of deceased patients during the study period was - 60.5 ± 0.55 (CI 59.4 ± 61.5) years, the calculation of the growth rate (T_{gr}) showed that it was loss rate (T_{los}) $T_{los} = -1.1\%$, i.e., the age of deceased patients is «getting younger», and according to the forecast for 2020 it will be 56.7 years, while maintaining the existing dynamic trend of deceased patients from OCC.

When separating the dead patients from OCC by sex and age, men aged 45-64 years prevailed, which amounted to 48.3%; women - 42.1%; further in descending order of 65 years and older - 36.0 and 36.5%; 18-44 years old - 13.9% and 19.2%; 15-17 years old - 0.77% and 1.22%; up to 15 years - 1.04% and 1.00%, respectively (Fig. 3).

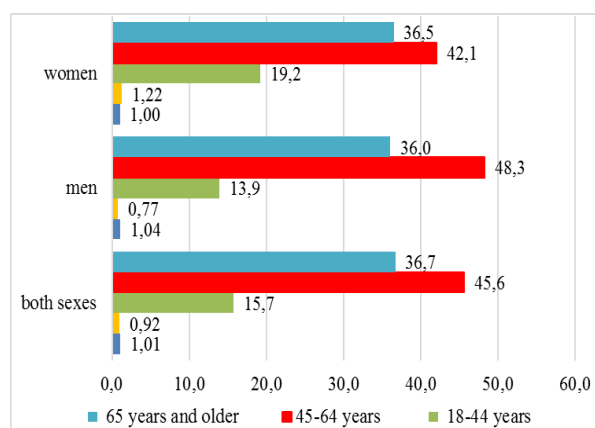


Fig. 3. Comparative specific gravity of deceased patients from OCC and OF on a sex-age featured.

As seen in figure 3, sex-age trait in conserved male predominance in all age groups, there is only a difference in the age group 15-17 years old, in which the number of dead men (0.77%) is less compared to women (1, 22%) and 18-44 years old - men (13.9%), women (19.2%), respectively.

A miscalculation of crude mortality rates from OCC and OF (per 100 thousand population) showed that the highest, they were determined in Tashkent city - 3.0, Bukhara - 2.1, Kashkadarya - 1.8, Tashkent - 1.7, Sirdarya - 1.7, Samarkand - 1.6, Namangan second areas - 1.6 and Republic Karakalpakstan - 1.5; average values of indicators were noted in Surkhandarya - 1.2, Djizak - 1.2, Andijan - 1.1 and Navoi - 1.1; the lowest indicator was observed in Fergana - 1.0 and Khorezm regions - 0.8 (Fig. 4).

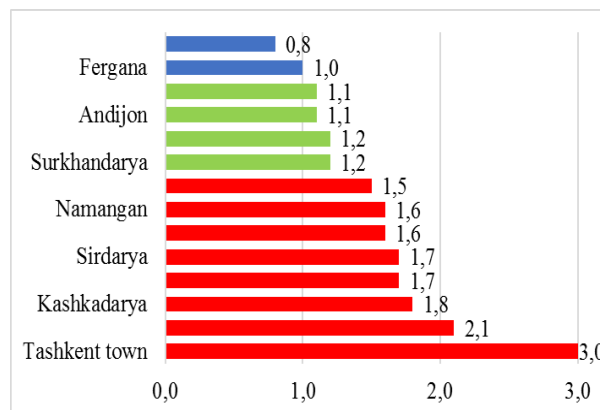


Fig. 4: A rough indicator of mortality from OCC and OF by regions of the Republic of Uzbekistan for 2008-2017.

A miscalculation of standardized mortality rates from OCC (per 100 thousand of the world population) showed that they were the highest in Tashkent city - 3.3, Kashkadarya - 3.1, Syrdarya - 3.0, Bukhara - 2.8, Samarkand - 2.6, Tashkent - 2.1, Namangan - 2.0, Surkhandarya - 2.0 and Republic Karakalpakstan - 2.3; average indicators were noted in Djizak - 1.8, Andijan - 1.6, Navoi - 1.6, Fergana - 1.2 regions; the lowest indicator was observed in the Khorezm region - 1.0 (Fig. 5).

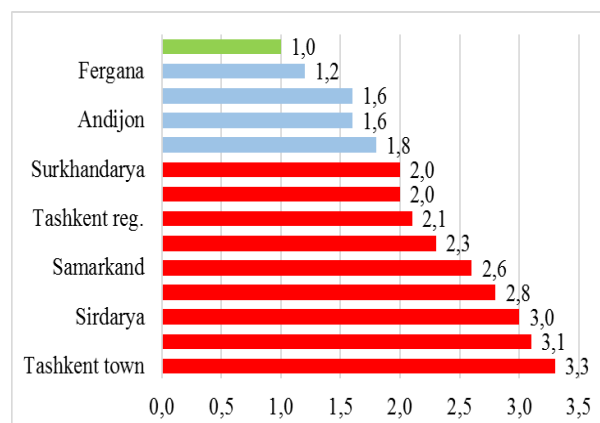


Figure 5: Standardized rate of mortality from the OCC and the OF by regions of the Republic of Uzbekistan for 2008-2017.

The obtained statistics on «rough» and standardized indicators of mortality from OCC confirm the presence of territorial variability, but in the Republic as a whole there is an increase in mortality, which amounts to $T_{gr} = +0.2\%$, but in the regions a high increase is noted for Surkhandarya - $T_{gr} = +20.8\%$, Samarkand - $T_{gr} = +20.2\%$, Syrdarya - $T_{gr} = +20.1\%$, Namangan - $T_{gr} = +17.0\%$, Khorezm - $T_{gr} = +15.7\%$, Kashkadarya - $T_{gr} = +15.3\%$, Navoi - $T_{gr} = +14.9\%$ and Republic of Karakalpakstan - $T_{gr} = +17.9\%$; the remaining regions Fergana, Andijan, Djizak, Bukhara, Tashkent regions and Tashkent have it maintained at an average $T_{gr} = +10.1\%$. This indicates that in regions with high mortality rates it is necessary to strengthen the quality of primary

detection of patients with this pathology, with the aim of subsequent initiation of timely treatment, which will improve survival rates, as well as ensure the quality of life of these patients with the possibility of their rehabilitation. Another prerequisite is the provision of correct registration of data on causes of death with the exception of possible errors, timely collection and deregistration of patients with ZN with a detailed indication and registration of the date and cause of death with the mandatory morphological and international code for nosology (ICD-10) with the subsequent creation database of the Cancer Register of the Republic of Uzbekistan.

To represent the current situation of mortality from OCC in the regions of the Republic of Uzbekistan, based on dynamic changes in mortality rates over a 10-year period, we calculated the predicted mortality rates from OCC for each region, shown in Table 1.

Table 1: Forecast of mortality from OCC and OF on 2020 and growth rates by regions of the Republic of Uzbekistan.

Areas	forecast for 2020	T_{gr}
Andijan	1,6	-0,2
Bukhara	3,4	2,6
Jizzakh	2,5	6,3
Kashkadarya	5,3	10,8
Navoi	2,0	3,2
Namangan	2,9	6,2
Samarkand	4,6	11,8
Surkhandarya	3,0	7,0
Syrdarya	4,0	4,8
Tashkent	2,2	1,0
Ferghana	1,6	4,2
Khorezm	1,1	1,4
R. Karakalpakstan	3,9	10,2
Tashkent city	3,7	1,6

As can be seen from table 2, high growth rates of mortality according to the forecast will be noted in Samarkand - $T_{gr}=+11,8\%$, Kashkadarya regions - $T_{gr}=+10,8\%$ and the Republic of Karakalpakstan - $T_{gr}=+10,2\%$, which requires a necessary increase in the attention of the oncological service in these regions to the emerging trend towards an increase in mortality from this pathology, and it is necessary to carry out preventive work on the early diagnosis of precancerous and background diseases of the oral cavity, and an increase in cancer alertness among Racei primary care, specialists and dentists ENT, to which in the initial stages of the patients treated with typical complaints of the disease.

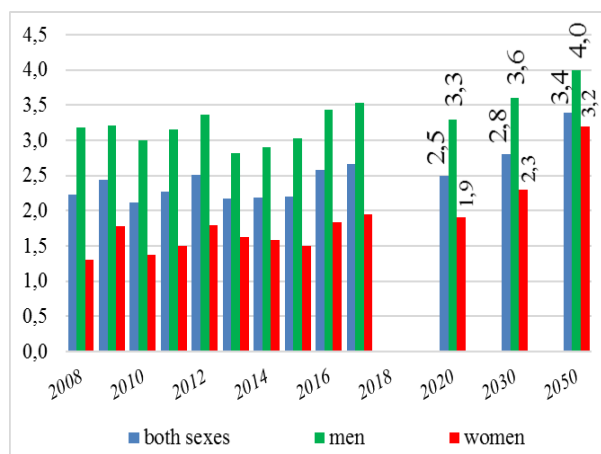


Figure 6: Predicted mortality rates from OCC and OF for 2020. (2030, 2050.) in the Republic of Uzbekistan

As calculations of the predicted mortality rates for 2020, 2030, 2050 show the forecast remains disappointing, as its growth is observed in Uzbekistan as a whole - 1.2%, while for men - 0.7%, for women - 2.6%. All this dictates the need for further epidemiological studies to determine the causative risk factors for the development of OCC, as well as the continuing trend towards an increase in mortality growth rates, both among men and women (fig. 6).

Based on the calculation of this predicted mortality rate by region, we can conclude that some of them have unspecified data on the causes of death, which requires mandatory correction and selection of documentary information on deceased patients whose cause of death was OCC.

Apparently, people living in regions with a high mortality rate are constantly exposed to various risk factors that cause an increase in both morbidity and mortality. This is, first of all, the use of tobacco, alcohol, chewing tobacco, «nasvay», poor nutrition, high solar insolation, viral infections (especially HPV virus infection), and poor oral hygiene. Also, an important role is played by the late appeal of patients for help, already in far-advanced stages, when the treatment is not giving results due to the prevalence of processes and metastasis, which, accordingly, affects high mortality rates.

Problems that are currently available, based on the results of imperfect cancer registers, or lack thereof, in connection with what they need to create, and the available update in order to achieve full coverage of information on morbidity and mortality in the country and its regions, which will help to individualize the conduct prophylactically measures, adaptation's socio-economic and cultural characteristics of each region with subdivide studied most interesting results of the study.

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