

EPIDEMIOLOGICAL FEATURES OF TUBERCULOSIS IN THE REPUBLIC OF KARAKALPAKSTAN IN THE PERIOD 2011-2020

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Article history:	Abstract:
<p>Received: February 1st 2023 Accepted: March 1st 2023 Published: April 6th 2023</p>	<p>It is known that tuberculosis (TB) is currently a serious burden on world health. As with any disease, much attention is paid to the morbidity of children.</p> <p>The article describes the peculiarities of the spread of TB, as well as the epidemiological characteristics of the territorial distribution of the primary incidence of this infection.</p> <p>Dynamics of incidents (intensive indicators) TB per 100 thousand population for the period 2011-2020 has a downward trend. Thanks to the consistent fight against TB, it was possible to achieve a steady decrease in morbidity rates both in Uzbekistan and in the Republic of Karakalpakstan.</p>

Keywords: Epidemiology, tuberculosis, district, clinical forms of TB, incidence, zones

THE PURPOSE OF THE STUDY. Identification of the peculiarities of the spread of TB, as well as epidemiological analysis of the dynamics of the territorial, social distribution of the primary incidence of this infection for 2011-2020.

MATERIALS AND METHODS.

A retrospective descriptive epidemiological study of the manifestations of morbidity of the TB population of the Republic of Karakalpakstan for the period 2011-2020 was conducted. The material for the study was the reporting data of the Sanitary and Epidemiological Welfare and Public Health Service of the Republic of Karakalpakstan and the branch of the

Center for Pulmonology and Phthisiology of the Ministry of Health of the Republic of Karakalpakstan.

Due to socio-economic and environmental features, we have conditionally divided the territory of the Republic of Karakalpakstan into four zones: Western (Muynak, Kungrad, Kanlykul and Shomanay districts), Northern (Takhtakupyr, Karauzyak, Chimbay and Kegeyli and Bozatau districts), Central (Nukus city, Nukus district, Khodzheyli and Takhiyatash districts), Southern (Amudarya, Beruniy district, Ellikkala district and Turtkul districts). The principle of remoteness of the territory of the district from the former shore of the Aral Sea is laid down in the conditional division into zones (Fig. 1).

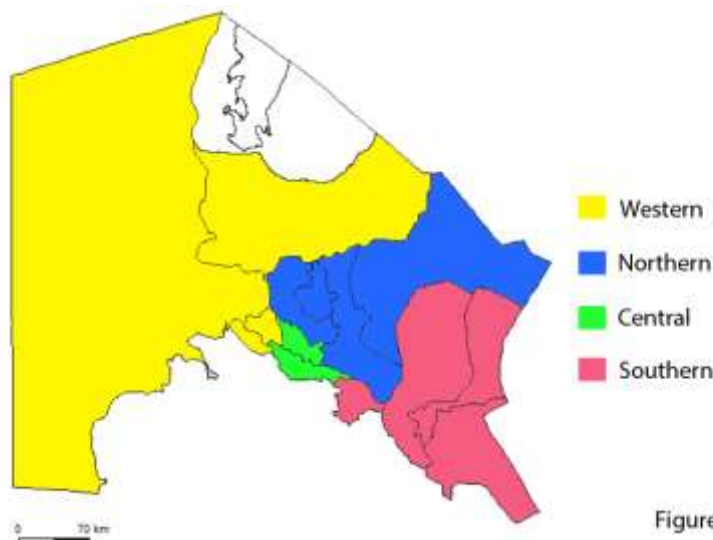


Figure #1



Territorial (zones, districts, city and village), biological (gender, age) and social indicators were studied. Functional and descriptive methods of epidemiological research were used in the work. Intensive indicators (prevalence, prevalence) and extensive (shares) indicators were calculated. The Microsoft Excel program was used in data processing.

a moderate increase in TB incidents for the period from 2011 to 2013 from 103.6 to 107.1, respectively, and the increase was 0.33%. After 2013, the primary morbidity rate underwent a slow decline by 2021, where the indicator is 53.6, which is the lowest for a 10-year period, the decrease was 48.3%. A particularly sharp decline in the indicator was observed in 2020, where the incidence decreased by 24.9% (Table 1).

RESEARCH RESULTS AND DISCUSSIONS. On the territory of the Republic of Karakalpakstan, there was

PRIMARY INCIDENCE OF TUBERCULOSIS PER 100 THOUSAND POPULATIONS.

Table #1

Districts	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Muynak	169,5	161,5	191,1	212,8	150,0	102,6	114,0	119,0	107,9	93,5		
Kungrad	84,2	122,9	129,1	143,1	115,7	83,3	81,7	115,2	108,4	84,1		
Kanlykul	147,2	145,6	191,0	148,3	148,2	115,9	85,0	92,0	98,6	83,8		
Shomana y	78,7	108,8	132,3	101,1	113,2	121,8	94,7	108,3	110,9	47,9		
Western		119,9	134,7		160,9	151,3	105,8	93,9	108,6	106,5	77,3	
Takhtakupyr		211,2	155,0		144,7	121,1	107,7	145,8	141,4	140,7	120,0	89,3
Karauzyak		202,1	169,7		204,4	144,0	179,8	143,7	139,3	147,5	138,8	71,7
Chimbay		189,6	185,7		143,9	164,4	151,4	104,3	96,2	93,4	91,5	70,9
Kegeyli		125,6	124,7		136,4	120,9	119,2	92,0	75,7	86,3	83,6	52,2
Bozatau	x	x			x	x	x	x	x	x		101,9
Northern		182,1	158,8		157,4	137,6	139,5	121,5	113,2	117,0	108,5	77,2
Nukus city		119,9	118,5		139,3	137,6	115,5	112,3	103,8	101,3	100,5	81,4
Nikus district		176,5	158,4		150,9	199,1	180,2	156,2	140,5	158,4	114,7	82,8
Khodzheyli		124,7	130,1		134,6	151,8	127,2	127,5	189,9	116,3	102,5	84,2
Takhiyatash		101,7	90,9		x	x	x	x	x	77,3	98,2	68,6
Central		130,7	124,5		141,6	16	141,	132,	144,	113,	104,	79,3

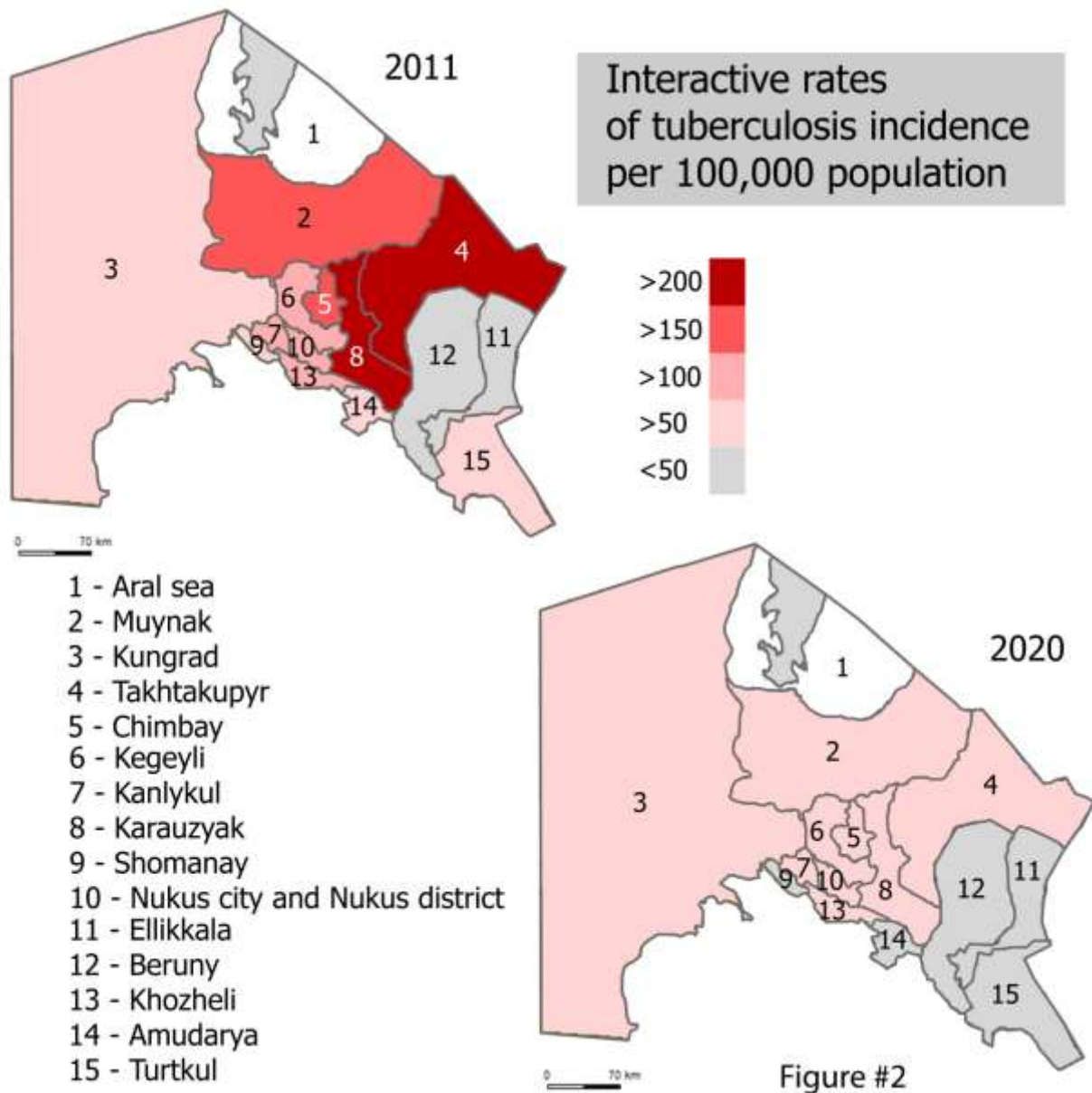


				2, 8	0	0	7	3	0	
Amudarya	50,2	63,2	56,2	48, 7	42,4	52,8	58,4	50,2	39,0	35,9
Beruniy	45,3	44,0	44,4	51, 2	34,2	38,4	31,8	31,8	28,0	26,4
Ellikkala	35,7	47,6	43,8	41, 6	43,4	31,4	31,7	27,8	26,6	24,3
Turtkul	56,9	42,7	42,4	40, 6	32,8	30,5	31,3	31,2	29,7	22,7
Southern	49,2	49,4	46,7	45, 5	38,2	38,3	38,3	35,3	30,8	27,3
Republic of Karakalpakstan	100,2	101,0	106,3	10 6, 0	93,2	84,1	78,2	78,7	74,1	57,2
Republic of Uzbekistan	52,9	51,6	50,8	47, 8	46,8	45,7	44,9	42,9	43,7	32,1

The highest incidence of TB in 2011 was registered in five districts of the Republic: Karauzyak district – 218.7, Takhtakupyr district – 210, Chimbay district – 193.4, Nukus district - 181.2 and Muynak district – 171.9.

The largest decline in the primary incidence of TB among the above-mentioned areas for 10 years

was observed in the Chimbay district, which decreased by 68.4% by 2021 compared to 2011. And throughout the Republic, the largest decline in TB was experienced by the indicator of the Turtkul district – 69% (Fig. 2).



The vast majority of TB cases in 2021 suffered from respiratory diseases, which accounted for 88.12% of all forms of TB. Including 85% accounted for lung TB, slightly more than 10% for tuberculous pleurisy and a small proportion for primary TB and TB of thoracic lymph nodes.

Over the last year of the study, in the structure of the incidence of respiratory TV, lung TB was slightly more than 81%. Of this, the overwhelming majority was infiltrative lung cancer, which accounts for exactly half of all patients with tuberculosis of the respiratory system.

In 2020, the intensive indicator for the entire territory of the Republic of Karakalpakstan amounted to 58.1, which is 56.2% lower than in 2011. During the first of the above years, the vast majority of cases are due to tuberculosis of the respiratory organs, of which

73% of all primary registered cases are pulmonary tuberculosis. Infiltrative pulmonary tuberculosis was the most common and accounted for 44.7% of all forms of TB. The proportion of fibrous-cavernous, the most epidemiologically significant form was 1.2% among the entire contingent of patients with TB (Table 1)

When studying the territorial prevalence of TB, the areas of the Northern Zone were distinguished by the highest incidence rate in 2011. Over the next ten years, the incidence has undergone a trend of moderate decline. The zone with the lowest incidence rate in 2020 was the Southern zone (Fig. 2).

In 2019, the incidence rate of multidrug-resistant TB (MDR-TB) was 15.4 per 100 thousand population, which is the highest indicator for 2014-2020. Among them, 91.7% were adults, 5.8%



teenagers and 2.5% were children under 14 years of age. The largest number of MDR-TB patients falls on the city of Nukus, where 34.7% of all patients were registered in 2019, who were found to have this form of infection with an intensive rate of 26.9 per 100 thousand populations.

The causes of multidrug-resistant TB, especially among children, require further study.

CONCLUSIONS.

1. The districts with the highest morbidity rate during the study period (2011-2020) were Karauzyak, Muynak, Takhtakupyr and Chimbay districts (Northern and Western zones). The lowest rates were recorded in the southern zone.
2. The incidence of TB decreased by 42.9% from 2011 to 2020. The largest decrease in TB incidence was observed in Turtkul district (60.1%).
3. The high incidence in the central zone is due to the large number of the population and the crowding of the latter in comparison with other zones.

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