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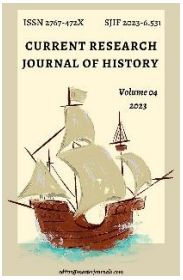


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Research Article

# FROM THE HISTORY OF THE TURKESTAN REGION: MILITARY MEDICINE IN THE SECOND HALF OF THE XIX – EARLY XX CENTURIES

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## ABSTRACT

The history of military medicine in the Turkestan region is still a little-studied topic among Turkestan historians. The article, based on historical, statistical sources, and scientific literature, obtained valuable information on this topic. The study showed that the Turkestan Military District remained unfavorable for service on a permanent basis due to many factors, during the period of the late XIX – early XX centuries. Russian military medicine has made a big step forward in Turkestan, as evidenced by the fight against various diseases and the opening of medical institutions in the area.

## KEYWORDS

Turkestan military district; TurkMD; Russian Empire; military medicine; diseases; organisation of the treatment system.

## INTRODUCTION

There are still many aspects in the history of Russia and the Central Asian states that require more careful study. One of them is the study of the military and sanitary conditions of service of troops of the Russian Empire in the Turkestan region in the second half of the XIX – early XX centuries. The article provides data on the diseases that existed in the troops of the TurkMD, their causes, the contribution of Russian military medicine in the fight against them and improving the sanitary conditions of service. This study will help fill in the existing "blank spots" in the history of our countries.

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In order to more carefully consider the issue of the military-sanitary situation in the Turkestan region, we need to focus our attention on the geographical characteristics of this region and trace their impact on the epidemiological situation in the region.

The Turkestan region included five Central Asian regions: Transcaspian, Samarkand, Fergana, Syrdarya, Semirechensk and two semi-independent khanates of Bukhara (emirate) and Khiva, which in area was 1,758,600 sq versts or 35,889 sq. miles. The region was larger in territory than such Western European states of that time as: Austria, Germany, Denmark, France, Italy combined[1].

Characterizing the properties of the Turkestan climate, L. F. Kostenko notes its continentality and dryness. "Throughout the entire territory of the Turkestan district, the climate is characterized by sharp transitions, both in the change of day and night, and in relation to the change of seasons. There are few places on the globe that, relative to the dryness of the atmosphere, could be equal to the Turkestan region. Here, with the exception of the mountain strip, rains are a rare and exceptional phenomenon" [2]. He also writes that given the dry continental climate of the Turkestan region, "the summer heat there is unbearable and reaches 35° R in the shade (Reaumur)[ 1° P (Re) = 1,25° C], and in the sun up to 45° and 50°; this period of heat from the parallel of Tashkent to the south lasts for 5 months, and in the northern half of the district... about 3 months." All this led to the fact that some changes were made in the costume of the Turkestan soldier: "a back plate was attached to the cap... so that the sun would not bake the neck; the satchel, which was tightly pressed with straps, was replaced by a canvas bag, cloth or linen trousers were replaced by leather ones"[3].

**The Main Findings and Results**

In addition to the climate, an important factor affecting the health of military personnel was often the lack of high-quality drinking water, not only during campaigns, as well as the unsatisfactory condition (in terms of hygiene) of the premises (sakel) where the troops were quartered.

These reasons gave rise to diarrhea, typhoid and especially recurrent fevers in the troops, which reached epidemic levels in some places, brought the number of diseases in the Turkestan district to 800 people per 1000 payroll, and the decrease in deaths to 47 per 1000[4]. People also got sick and died from typhoid fever, pulmonary consumption, inflammation of the chest organs and especially the lungs [4.58].

According to the Most Comprehensive Report on the actions of the War Ministry for 1868[5], diseases were common per 1000 payroll people in the Turkestan Military District (Table 1)

**Table 1 - Distribution of various diseases in the troops of the TurkMD in 1868 (per 1000 people on payroll)**

| № | Names of diseases | Got sick | Dying |
|---|---|---|---|
| 1 | Typhoid fevers | 274,9 | 24,92 |
| 2 | Laxative fevers | 60,5 | 0,4 |

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| | | | |
|---|---|---|---|
| 3 | Intermittent fevers | 152,9 | 0,437 |
| 4 | Cattaroma of the respiratory organs | 15,81 | 0,255 |
| 5 | Inflammation of the chest organs | 9,25 | 1,17 |
| 6 | Pulmonary consumption | 3,94 | 1,68 |
| 7 | Various types of diarrhea | 79,98 | 13,994 |
| | (including bloody diarrhea) | 14,25 | 3,024 |
| 8 | Inflammation of the urinary organs | 14,07 | 0,036 |
| 9 | Scurvy | 16,47 | 0,911 |
| 10 | Dropsy | 2,51 | 0,765 |
| 11 | Rheumatism and aches | 19,35 | 0,146 |
| 12 | Syphilis | 41,94 | 0,364 |
| 13 | Eye diseases | 16,99 | – |
| 14 | With defeats came | 14,83 | 0,838 |
| 15 | With bruises | 8,96 | 0,073 |

In just 5 years (1868 - 1872) in Turkestan, scurvy, fever, smallpox and typhoid fever and cholera were rampant in the garrisons [6. 70].

By 1873, the number of illnesses and deaths in the TurkMD troops had decreased significantly and amounted to: 494 lower ranks sick per 1000 average people, and 11.9 deaths per 1000[6.69] . Despite the fact that Turkestan troops took part in the Khiva expedition, this year gave the lowest incidence rate. This circumstance is explained by the fact that it is more difficult for a Turkestan soldier to live on site, in the barracks, than on a campaign, where he enjoys clean, healthy air, moderate exercise and is surrounded by the increased care of his superiors.

If you look at the fortifications in which the troops were located, the worst conditions were in Jizzakh*, where the 2nd Turkestan Line Battalion was located. Due to the constant morbidity and mortality in this battalion, in 1872 it was transferred to the Ura-Tyube fortification, where there was a healthy climate. An unfavorable place from a hygiene point of view was Tokmak (in the Semirechye region), surrounded by swamps, which caused fever in the garrison.

In 1873, the highest incidence in the Turkestan troops was in the following points (See: table 2)[6. 71-72].

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**Table 2 – Morbidity statistics in 1873 in the district troops located at their places of deployment**

| Highest incidence | | | |
|---|---|---|---|
| **№** | **Name of items** | **Incidence per 1000 people. average payroll** | **%** |
| 1 | Tokmok | 2 156 | 215,6 |
| 2 | Kazalinsk | 1 054 | 105,4 |
| 3 | Khojent | 850 | 85 |
| 4 | Ghulja | 831 | 83,1 |
| 5 | Telau | 722 | 72,2 |
| 6 | Loyal | 596 | 59,6 |
| 7 | Katty-Kurgan | 579 | 57,9 |
| 8 | Karakol | 543 | 54,3 |
| 9 | Chinaz | 543 | 54,3 |
| 10 | Shymkent | 527 | 52,7 |
| 11 | Bakhtakh | 520 | 52,2 |

| Lowest incidence | | | |
|---|---|---|---|
| **№** | **Name of items** | **Incidence per 1000 people. average payroll** | **%** |
| 1 | dug | 488 | 48,8 |
| 2 | Tashkent | 486 | 48,6 |
| 3 | Ura-Tube | 473 | 47,3 |
| 4 | Julek | 430 | 43,0 |
| 5 | Stanitsa Lepsinskaya | 404 | 40,4 |
| 6 | Aulie-Ata | 390 | 39,0 |
| 7 | Turkestan | 368 | 36,8 |
| 8 | Fort No. 2 | 367 | 36,7 |

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| | | | |
|---|---|---|---|
| 9 | Samarkand | 253 | 25,3 |
| 10 | Perovsk | 207 | 20,7 |
| 11 | Petro-Alexandrovsk | 156 | 15,6 |
| 12 | Sergiopol | 109 | 10,9 |
| 13 | Naryn fortification | 72 | 7,2 |

Considering the above negative factors that had a detrimental effect on the military, the Turkestan command tried in every possible way to limit them and took various measures to improve sanitary conditions. For example: swamps were drained, rice crops were moved away from the barracks, spacious and dry barracks were built.

The quality of medical care for the district troops gradually increased, as evidenced by the dynamics of the number of sick and deceased military personnel. In 1870 and 1880 the number of diseases and deaths only in the Turkestan Military District was characterized by the following data: in 1870, 21,577 fell ill, 762 died (20.8 died per 1,000 personnel). And in 1880, there were 19,578 sick people, 472 deaths (10.29 deaths per 1,000 personnel)[7]. Mortality among sick people decreased especially significantly over 10 years in the Kazan, Kiev, St. Petersburg, Caucasus and Turkestan districts (in the latter this was largely due to the reduction in the scale of military operations in Central Asia)[8].

In the mid-1880s. (without the Semirechensk region, which was withdrawn from the region in 1882), 2 hospitals functioned in the Turkestan region (Tashkent - 2nd class and Samarkand - 1st class), designed for 622 patients, incl. for 30 women, mostly "native". There were 19 local hospitals in the region: Kazalinsky, Khojentsky, Perovsky, Chimkent, Fort No. 2, Turkestansky, Dzhuleksky, Aulieatinsky, Uratiubinsky, Klyuchevsky (Jizzakh), Kattakurgansky, Petro-Alexandrovsky, Nukus, Margilan, Andijan, Osh, Kokand, Namangan and Tulchinsky. In total they had 1101 places, incl. 82 female. Dozens of them were occupied by the "natives" of the region[9].

In 1895, the highest incidence for comparison was in the Turkestan (781.4 per 1000 people), Irkutsk (560.2) districts and the Trans-Caspian region (490.6). The highest mortality rate was: in the Trans-Caspian region (9.76 per 1000 people), II Petersburg (7.90) and Warsaw (6.33) districts [10] The lowest overall loss of service due to disease was given by: Amur (17.05), Turkestan (17.92) and Irkutsk districts (21.01 per 1000 people)[10. 61].

The soldiers in the troops suffered from various types of diseases, among which were: intermittent fever, venereal diseases, eye diseases, catarrh of the respiratory branches and lungs and catarrh of the stomach and intestines [10, 64-65].

Troops suffered most from fever during the summer and autumn months. The reasons that caused this disease in the TurkMD troops were sharp changes in day and night temperatures, in addition, the presence of swamps, as well as in some places rice plantations. Also in summer and autumn, as a result of excessive consumption of fruits by military personnel, it was the cause of diarrhea.

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The coincidence of the time of incidence of indigestion with the time of prevalence of fevers led Turkestan physicians to wonder whether diseases of the first kind had the same origin as diseases of the second kind, and whether therefore the same means could not be used to cure them. After many years of searching for a cure, Turkestan doctors tried giving quinine to patients for stomach disorders *[11, p. 826]—and perfect success was achieved [11].

Among the purely local diseases affecting the Turkestan soldier, two should be included: the so-called "Sartov" disease and guinea worm" [12].

"Sartovskaya" disease - (yaryau augani, Afghan ulcer), Pendinsky ulcer or "cutaneous leishmaniasis" was common in all settled areas inhabited by "Sarts". At that time, the origin of this disease was not fully understood. This disease appeared from drinking water contaminated with sewage. The disease consists of a tumor appearing on the body, mainly on the face and hands, which then develops into an ulcer; this ulcer, if not treated, spreads more and more throughout the body. It should be noted that during the first years of their stay in the region, Russian doctors did not know how to treat this disease, so soldiers, officers and their families were treated for ulcers by local tabibs, despite the ugliness of the treatment method [12. 74]. Much credit for the study and discovery of the world's first causative agent of cutaneous leishmaniasis belongs to the famous Russian surgeon P. F. Borovsky.

Another terrible disease was guinea worm or dracunculiasis - (filaria înedinentis) - a thin, white worm, the thickness and color of which resembles vermicelli. This disease was widespread in Katy-Kurgan and Jizzakh. The disease begins with a tumor, and sometimes one feels severe aching in the bones, internal heat, dry mouth and thirst. The tumor turns into an abscess, which is cut through and a "guinea worm" is discovered. Then they carefully take it out, wrapping it around a stick and trying not to tear it off. If the worm ruptures, the latter goes far inside and then it is much more difficult to remove it, and the pain it causes is more excruciating. Guinea worm embryos again penetrated into a person with water, through the walls of blood vessels, established themselves in the muscles under the skin and then developed into a worm. To avoid infection with this disease, Turkestan troops were ordered to boil water before drinking [12. 74]. A huge and invaluable contribution to the study of this disease was made by the Russian naturalist, naturalist researcher of Turkestan A. P. Fedchenko.

In 1906, the highest incidence was observed in the Don Army region (2.4 times), Turkestan (1.9 times), Warsaw (1.7 times), Moscow and St. Petersburg (1.6 times) districts. A significant increase in morbidity in the army and in particular in the troops of the TurkMD was a direct consequence of the strengthening of the guard and police service of the troops and their everyday disorder associated with the Russian Revolution of 1905-1907.

In 1912, the incidence rate in the troops of the Turkestan Military District, as can be seen in Table 3, decreased by 5.1% per 1000 people. payroll. Mortality from disease decreased in all districts of the Empire, except for Turkestan, where it increased by 0.39%[13].

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**Table 3 – Statistics on morbidity and mortality in Russian troops by military district in 1912**

| Districts | Per 1000 people on average payroll | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Got sick | | | Dismissed as incapable | | | Died from disease | | |
| | 1912 г. | 1911 г. | Разн. | 1912 г. | 1911 г. | Разн. | 1912 г. | 1911 г. | Разн. |
| Petersburg | 501,2 | 514,2 | -13,0 | 43,4 | 47,2 | - 3,8 | 3,41 | 4,12 | -0,71 |
| Vilensky | 280,9 | 311,9 | -31,0 | 35,0 | 34,6 | +0,4 | 2,15 | 2,40 | -0,25 |
| Varshavsky | 371,9 | 409,3 | -37,4 | 31,9 | 34,7 | -2,8 | 2,42 | 3,09 | -0,67 |
| Kyiv | 456,3 | 455,2 | +1,1 | 30,4 | 31,9 | -1,5 | 2,69 | 3,28 | -0,54 |
| Odessa | 352,0 | 337,2 | +14,8 | 25,4 | 25,2 | +0,2 | 1,93 | 2,93 | -1,00 |
| Kazansky | 365,3 | 361,8 | +3,5 | 31,9 | 30,4 | +1,5 | 3,16 | 4,13 | 0,97 |
| Caucasian | 434,3 | 451,2 | -16,9 | 26,4 | 30,9 | -4,5 | 3,75 | 3,77 | -0,02 |
| Turkestan | 403,7 | 408,8 | -5,1 | 22,1 | 20,2 | +1,9 | 4,30 | 3,91 | +0,39 |
| Omsk | 459,5 | 491,6 | -32,1 | 45,3 | 37,4 | +7,9 | 2,53 | 3,73 | -1,20 |
| Irkutsk | 368,8 | 377,1 | -8,3 | 25,9 | 28,6 | -2,7 | 3,62 | 4,91 | -1,29 |
| Priamursky | 331,0 | 358,1 | -27,1 | 19,6 | 23,0 | -3,4 | 4,28 | 4,46 | -018 |
| Donskoy Army Region | 331,0 | 385,9 | -54,9 | 37,6 | 48,0 | -10,4 | 1,04 | 2,70 | -1,66 |
| Army | 387,2 | 400,3 | -13,1 | 31,6 | 33,1 | -1,5 | 3,00 | 3,51 | -0,51 |

If we consider the diseases that affected the TurkMD troops, the following types should be noted. In 1912, the largest number of diseases was given: intermittent fever - 100.0 (per 1000 people on the payroll), typhoid fever - 12.0, erysipelas - 4.7, diseases of the digestive system - 44.1. Less than in other districts in Turkestan there were cases of influenza - 10.4, pulmonary tuberculosis - 1.0, and diseases of the respiratory organs. High mortality was from typhoid fever (1.85%) and diseases of the digestive system (0.38%) [14].

## CONCLUSION

To sum up, we can draw conclusions that the Turkestan Military District (TurkMD) for many years remained an unfavorable place in terms of the sanitary and epidemiological situation for troops to serve. This was due to many reasons, the main ones being: climatic,

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geographical, sanitary and hygienic conditions. The sharply continental climate of Central Asia was an unfavorable factor that negatively affected their health. The pressing problem in the district was the lack of quality drinking water. The Turkestan authorities took measures to improve the environmental conditions in which the Russian military served. Undoubtedly, Russian doctors, including military doctors, contributed to the development of medicine in the region. The opening of hospitals, infirmaries and other military medical institutions made it possible, at least slightly, to reduce the number of diseases and deaths in the district, as well as to combat various types of diseases that affected not only the troops, but also the local population.

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