

# Importance of Domestic Experience in Combating Epidemics When Solving Modern Global Problems

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## ABSTRACT

The current topic of epidemics makes the regional experience of combating them in environmentally unfavorable, "difficult" areas relevant. The geographical location of the Lower Volga region as the "Caspian Gate" through which various epidemic diseases penetrated into Russia from Asia has led to the development of valuable "local" experience in combating them. Much that was done in Russia to combat pandemics was tested in the Lower Volga region and then spread to other regions. During the Soviet period, anti-epidemic work became a priority in the country. For its implementation, not only the personnel of sanitary doctors were trained and mass hygienic propaganda was launched among the population, but also a lot of scientific work was done. In the 1920s, the territory of the Lower Volga region was mainly cleared of cholera and plague. In the 1930s, advanced methods of treatment and prevention of these diseases were effectively applied in Kazakhstan and Central Asia. The system for combating epidemic diseases established in the USSR made it possible to successfully counteract and often prevent them during the Great Patriotic War, as well as during the postwar famine period.

**Keywords:** *pandemics, epidemics, biological and epidemiological threats, Lower Volga region*

## 1. INTRODUCTION

The history of epidemics and human's response to them is rich and diverse. Like other environmental and social cataclysms, epidemics have challenged humanity to understand their nature and to find ways to fight them, which have been shaped by historical and cultural characteristics.

Located on the border of East and West and possessing a huge territory bordering many countries, Russia accumulated a huge experience in fighting against them. For Russia as a whole, taking into account the strength and importance of the state in all spheres of life, there is an administrative model of fighting epidemics in its most severe form. In relation to the Lower Volga region it is doubly fair: the unspoken border of the Russian civilization passed along the Volga. The lands behind the Volga River were the territory to be developed and civilized. At the turn of the 19<sup>th</sup>-20<sup>th</sup> centuries, significant masses of peasant population from densely populated central regions of the country migrated to the region.

The period from the end of the 19<sup>th</sup> century to the beginning of the 1990s was chosen as a chronological framework for the research. The lower chronological boundary is caused by the inclusion of bodies of sanitary-epidemiological control in the system of the state mechanisms on prevention and liquidation of epidemics. The upper boundary is the collapse of the Soviet state, fundamental reorganization of the entire state, social and

economic systems, including the system of sanitary-epidemiological control.

## 2. PROBLEM STATEMENT

The difficult global epidemiological situation updates the importance of studying the historical experience of preventing, counteracting the spread and eliminating the negative consequences of epidemics, including those on a global scale. The analysis of the causes of the origin of biological and epidemiological threats allows us to speak about the presence of ecologically unfavorable territories with a certain set of specific features that make these regions the most vulnerable and susceptible to threats of epidemic emergence and spread [1]. One such Russian territory in historical retrospective was the Lower Volga region (currently located within the administrative boundaries of Astrakhan, Volgograd, Saratov regions and the Republic of Kalmykia).

## 3. RESEARCH METHODS

The research theory is based on such principles of scientific cognition as objectivity, consistency and historicism. The principle of objectivity made it possible to avoid the ideological task when analyzing the events of pre-revolutionary and Soviet periods of Russian history. The principle of consistency made it possible to study a complex of state measures (social, economic, political,

cultural, biological and medical) to counteract epidemiological threats in their interrelation and interdependence. The principle of historicism made it possible to consider the implementation of these measures in changing conditions of historical retrospective.

In the analytical work, the cognitive functions of a number of concrete historical and general scientific methods were used. The problem-chronological method made it possible to identify the general and the special in the complex of state measures to contain, eliminate and prevent the spread of biological and epidemiological threats in imperial and Soviet Russia. The comparative-historical method was used to characterize the relationship between the socio-economic development of the territory and the sanitary-epidemiological situation. The culturological approach made it possible to show the impact of the state cultural policy on raising the cultural level and literacy of the population; on medical education of the population and the eradication of superstitions; on agitation and promotion of a healthy lifestyle and on the sanitary-epidemiological situation in the region.

#### **4. DISCUSSION OF THE RESULTS**

Since the time of the Golden Horde, the lands of the Lower Volga region have been a “wild field” that was hostile to Russian civilization – that was a place where the enemies attacked, hot winds brought drought, various epidemics were spreading. In the 19<sup>th</sup> century, this region (presently known as Saratov, Volgograd and Astrakhan regions) began to be actively developed. Significant flows of migrants, mainly peasants, from the densely populated central regions of the country flocked into the Lower Volga steppes. Their inflow was caused by the beginning of the industrialization in Russia.

The Astrakhan province was particularly unfavorable in epidemiological terms due to geographical (proximity to Asia), natural (hot climate) and ethnic (presence of a large number of nomadic population) reasons [2, pp. 60–61, 3]. Starting from the 14<sup>th</sup> century and up to the beginning of the 20<sup>th</sup> century, 6 plague epidemics and over 20 cholera epidemics were recorded in the Astrakhan province [4]. From the 14<sup>th</sup> century to the beginning of the 20<sup>th</sup> century, 6 plague epidemics and over 20 cholera epidemics were recorded in the Astrakhan province [4]. Outbreaks of black pox were a scourge for Kalmyk nomads [5, p. 626]. Therefore, in the first quarter of the 20<sup>th</sup> century, the steppes of the Lower Volga region received serious attention from both state authorities and sanitary doctors and scientists. In the reports of government officials, these lands are represented as the “Caspian Gate”, “the region of epidemics and various infections”, from where plague, cholera, smallpox and other “epidemic diseases” came from Russia to Asia [6, pp. 958–960].

In 1884, in the Astrakhan province, the sanitary supervision was introduced, being one of the first in Russia: it was a special service engaged in combating infections. The sanitary supervision was then carried out by four sanitary doctors, later their staff was expanded.

In 1901, by the decision of the government, the first anti-plague laboratory in Russia was created in Astrakhan. Until 1914, the laboratory was subordinate to the Chief Medical Inspector of the Ministry of Internal Affairs, and in 1914–1917 it was subordinate to the St. Petersburg Institute of Experimental Medicine. The Astrakhan Anti-Plague Laboratory (AAPL) has become the largest plague control scientific center in southern Russia. Such famous scientists as D.K. Zabolotny, V.I. Isaev, I.I. Mechnikov and many others conducted their research at this laboratory [7, p. 93].

In 1912, researcher I.A. Deminsky, having contracted plague during his experiments with steppe gophers, proved at the cost of his own life that rodents were the source of spread in the Kalmyk and Kirghiz steppes [8].

With the establishment of Soviet power, the fight against epidemics in the Lower Volga region took on a state character. Until the mid-1920s, the measures taken by the government were of an emergency nature and were aimed at counteracting epidemics. Despite the counteracting, special wards in hospitals and infirmaries, “infectious barracks” were already opened during the civil war. In Astrakhan, in 1919, temporary infectious diseases wards were opened in all existing hospitals of the city. In places particularly susceptible to epidemiological diseases, a state of emergency was introduced; emergency commissions and “troikas” to combat epidemics were created under local party Soviet authorities.

Great importance was attached to health education for the general public, which previously lacked even basic knowledge in this field. Party activists, medical workers and students of medical institutions were involved in such propaganda work. In 1921, the Astrakhan provincial health department was able to find opportunities and means to create a House of Health Education for workers.

On September 15, 1922 the Decree of the RSFSR Council of People’s Commissars “On sanitary bodies of the republic” was issued, which initiated the establishment of the unified sanitary-epidemiological service of the USSR. As part of the fight against epidemics in the regions subject to their spread, in particular, in the Lower Volga region, stationary specialized hospitals began to be created [9]. In Astrakhan, for example, an infectious diseases hospital with 95 beds was opened in 1927. In addition, sanitary services began regularly vaccinating the population against epidemic diseases.

The accelerated development of medical science since the 1920s has become a reliable cordon in the fight against epidemics. In the 1920s-1930s, dozens of new research institutes, including medical ones, appeared in the USSR. In 1945 the Academy of Medical Sciences of the USSR was established [10, p. 133].

In the 1920s, an effective system of counteracting epidemics on a state scale was mainly created and actively implemented in practice. The components of this system were: strict administrative measures in case of the beginning of the epidemic, active educational work among the population, training of qualified medical personnel, wide involvement of scientific knowledge in the activities of sanitary and epidemiological services. All this

contributed to the fairly rapid eradication of plague and cholera in the Lower Volga region and the closure of the "Caspian Gate". In the 1930s, proven methods of counteracting epidemic threats began to be implemented in the steppe regions of Kalmykia, Kazakhstan and Central Asia, setting new barriers to the spread of epidemics. For example, from October to December 1937, Astrakhan and Saratov doctors quickly defeated the plague epidemic in Kalmykia [11].

During the Great Patriotic War, despite the fighting, destruction and displacement of a large number of people, the Caspian Gate was reliably covered, and those outbreaks that arose in the region (for example, cholera outbreaks in 1942 in Stalingrad) were successfully eliminated [12]. In the first postwar years in the Lower Volga region, the medical consequences of famine and childhood homelessness in 1946–1947 were also successfully overcome [13].

In 1970, an outbreak of such a dangerous disease as cholera was successfully eliminated in the southern regions of the USSR within 2 months largely due to the rapid actions of Astrakhan doctors [14, 15].

## 5. FINDINGS

Based on the analysis, the causes of the origin of biological and epidemiological threats in the Lower Volga region were revealed:

- at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries, large numbers of peasants from the central parts of the country migrated to the region. Their inflow was caused by the beginning of the industrialization in Russia and contributed to the growth of population density in the Lower Volga region with poor medical and sanitary and epidemiological control;
- the Volga was an unspoken border of Russian civilization. The steppe lands behind the Volga River were the territory to be developed, and the population was to settle down there. Due to that fact, the lands of the Lower Volga region were actively filled with nomadic immigrants, whose habitual way of life did not contribute to the observance of elementary sanitary norms;
- plague and cholera actively penetrated through the open "Caspian Gate", which was located at the intersection of important water and land trade routes from Asia to Russia;
- The Lower Volga Region was a heterogeneous region in terms of the national and confessional composition, the ratio of urban, rural and nomadic population, the level of literacy, etc., which was reflected in the organization of health care and the attitude of the population to the measures taken;

- World War I and the Civil War that followed led to the destruction of the economy, a sharp deterioration in the lives of the majority of the population and, consequently, the spread of epidemic diseases (Spanish flu, various types of typhus, malaria, etc.). The situation was exacerbated by the famine of 1921-1922;

- after the end of the Civil War, the work of the Soviet government in the fight against epidemic diseases acquires a state, systematic character. The accelerated development of medical science since the 1920s has become a reliable cord in the fight against epidemics.

- proven methods for counteracting epidemic threats have been introduced in the steppe regions of Kalmykia, Kazakhstan and Central Asia, setting new barriers to the spread of epidemics.

## 6. CONCLUSION

Thus, at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries, the Lower Volga region was one of the most dangerous territories of the Russian Empire in terms of epidemiology and maintained a similar status in the first decade of Soviet history. This conclusion is also confirmed by the fact that in 1884 in the Astrakhan province, one of the first Russia sanitary supervisions was introduced. Among the reasons for the frequent and devastating epidemics in this period, the authors consider the lack of effective state and budgetary support for medicine. With the establishment of Soviet power, the fight against epidemics in the country as a whole, and in the Lower Volga region in particular, is becoming a state issue.

The establishment of the state system of sanitary-epidemiological control in the 1920s–1930s went hand in hand with the formation of the Soviet model of development and on the basis of the same installations, principles and foundations. This process was started not from scratch, but on the basis of the generalization of the best pre-revolutionary traditions and rich experience of fight against epidemics in the 19<sup>th</sup> century. Peculiarities that arose in this regard in the health care system and the sanitary-epidemiological supervision as its component – the state nature of public health care as the most important social sphere, the plan to conduct large-scale recovery measures, the ability to work quickly in crisis conditions, free and generally available qualified assistance and services for prevention of diseases, etc. – turned out to be decisive in confronting the biological and epidemiological threats in Russia in the 20<sup>th</sup> century.

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