



## Epizootiology of Rabies in Fergana Region and Measures for its Preventio

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**Abstract:** *The article provides information about the epizootology of rabies and the relationship of the disease with wild fauna, which is a reservoir of infection. It also discusses the general and specific measures taken to prevent the spread of the disease in the Fergana region. In order to assess its effectiveness, an analysis was made of the degree of vaccination of animals in the region over the past 7 years, reflecting the dependence of the prevalence of rabies among animals on specific prophylaxis during 2015-2021.*

**Keywords:** *animals, rabies, infection, reservoir, prophylaxis, neurotropic virus, central nervous system, fixation virus, dog, cat, wild animal, vaccine.*

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**Introduction.** Better satisfaction of the population's demand for meat, milk, eggs, honey, other livestock and food products depends in many respects on the further development of animal husbandry and increase in production. Livestock production is mainly accounted for by farms and the private sector.

In our country, a lot of work has been done to prevent infectious and invasive animal diseases, and important normative documents have been developed in this regard. The epizootic situation of rabies among farm and agricultural animals has remained complex in recent years. Rabies remains a hot topic in medicine and in medical and veterinary science and practice. The disease is widespread among farm, domestic and wild animals and is becoming a complex economic, environmental and social problem. The spread of the disease in all countries of the world, the proliferation of warm-blooded animal species in the epizootic process, and the prevalence of rabies among humans are exacerbating the problem.

The disease is transmitted to humans through the bite of animals such as dogs, cats, foxes, wolves, and jackals, sometimes through contact with infected pets. So this is a social problem. The rabies virus is difficult to control because all mammals are susceptible to the virus. In particular, all wild animals and rodents maintain the pathogenicity of the pathogen in nature. That's why it's so hard to get rid of rabies.

Because it is impossible to vaccinate all rabies-prone animals in nature (mountain, desert, aquatic animals). However, it should be noted that the most dangerous animals for humans and farm animals are dogs, foxes and cats. Therefore, today it is important to analyze the epizootic situation

with rabies and to study in depth the characteristics of the feed used in the Republic for the prevention of the disease.

Rabies is one of the most common infectious diseases of agriculture and domestic animals and has always attracted the attention of medical and veterinary specialists.

**Relevance of the topic.** Since modern medicine and veterinary science and practice do not have effective treatments for this disease, it is very important to develop new preventive measures against rabies. Therefore, protecting animals from rabies alone will completely save humanity from this very dangerous and frightening disease. For this purpose, the use of highly immunogenic vaccines for rabies vaccination of dogs and cats, especially vaccines developed in our country, is effective.

Study of the peculiarities of the epizootiology of rabies in the Fergana region, the creation of a healthy epizootic situation for rabies at the expense of vaccination against wild animals, especially stray dogs and cats, which is the source of the pathogen and ensures its stability in nature, is of great social and economic importance.

**Rabies** is an acute, highly dangerous viral disease of warm-blooded mammals, characterized by severe damage to the nervous system and fatal. The disease is caused by a filtered neurotropic virus belonging to the family *Rabdo*virus. There are street (epizootic) and (fix-virus) types of the virus that cause the disease. The fix-virus strain of the street-type virus was transmitted to rabbits by passage and is widely used to produce vaccines. The street type of the virus in nature is distinguished by its pathogenicity and antigenic structure. The virus multiplies in the brain of an infected animal and is excreted through the saliva. Rabies is common throughout the world. The disease has been reported in more than 150 countries around the world, killing more than 65,000 people a year in Asia, Africa and Latin America, 30,000 in India and nearly 1 million different animals worldwide. Every year, about 15 million people are vaccinated against the disease.

Rabies affects all types of wild and domestic animals and people, and cold-blooded people do not get the disease. Of the wild animals, the most susceptible are carnivores (foxes, wolves, wolverines). However, the disease is more common in rodents and bats. Pets, especially stray dogs and cats, get sick from pets. In birds, the disease can be artificially transmitted, and in very rare cases it can be transmitted naturally.

Wild animals ensure the stability of the disease virus in nature. A sick animal is a source of disease. The virus appears in the saliva of a sick animal 8-10 days before the onset of clinical signs of the disease. The disease is mainly transmitted through direct contact.

The clinical manifestations of the disease are often severe and quiet (paralytic), as well as abortive and atypical. In dogs, the disease is usually typical. The acute form occurs in three stages (prodromal, excitatory, and paralytic). The latent period of the disease depends on the location of the bite, the nature of the injury, the number and virulence of the virus, and the shortest period is 7–10 days, which can extend to 3–8 weeks.

Characteristic signs of pathological changes are that the animal, which died of rabies, is very thin. The hair on the lower jaw is contaminated with saliva and hardens. Inflammation of the respiratory tract, gastrointestinal tract. In the stomachs of carnivores there are rags, pieces of wood and other things. Hemorrhage and erosion of the mucous membranes are observed. The brain and its membranes swell, spotted bleeding is observed everywhere, the blood vessels dilate.

Diagnosis is based on the epizootiological data of rabies, clinical signs and the results of pathological and laboratory tests.

An ointment is prepared from the brains of animals brought in to diagnose the disease, in which Babesh-Negri corpses are searched or biosynthesized in white mice. Today, as a result of many years of research, the Laboratory for the Study of Rabies was separated from the Laboratory of Virology of the Uzbek Veterinary Research Institute in 1974. The laboratory received a patent-protected rabies fixation virus strain "0-73-02" and from it to rabies of all farm animals (cattle, sheep, goats, pigs, horses, donkeys, camels) and domestic animals (dogs, cats) "Liquid inactivated vaccine" vaccine has been developed and is being used successfully today. An oral granular antirabies vaccine for wild animals, dogs and cats has also been developed, and a hyperimmune serum against rabies has been developed.

**Research results and their analysis.** In Fergana region, large-scale preventive measures against rabies have been carried out. In the fight against rabies, we have identified the sources of the disease and taken measures to eliminate it. We have organized the elimination of stray and stray dogs and cats (keeping them and handing them over to the relevant organizations), regular veterinary control of domestic dogs and cats, their prophylactic vaccination, tying and keeping special equipment in their beaks. We have ensured that animals imported from abroad are vaccinated against rabies in accordance with veterinary regulations.

In rural areas, we recruited hunter brigades to catch stray dogs and cats, and in urban areas we recruited special utility brigades. At the same time, we have tightened control over the number of dogs in cities, their sale and exchange. Dogs and wolves that are found around populated areas need to be eradicated.

Maxsusveterinariyatadbirlaridan asosiy siyosiy aktiv immunitet paydo qilish uchun hayvonlarni antirabik vaktsinab bilan emlashtadbirlarini olib bordik.

As a result of the analysis of the level of rabies vaccination in Fergana region in 2015-2022, we found the following (Table 1).

In 2015, 154,000 dogs were planned to be vaccinated against rabies, 112,056 dogs and 105 cats were actually vaccinated, and the annual plan was fulfilled by 72.76%.

In 2016, 154,000 head of dogs were planned to be vaccinated against rabies, in practice 146,891 head of dogs and 305 head of cats were vaccinated, and the annual plan was fulfilled by 95.4%.

In 2017, 172,000 head of dogs were planned to be vaccinated against rabies, in fact 151,831 head of dogs and 195 head of cats were vaccinated and the annual plan was fulfilled by 88.3%.

In 2018, 148,700 head of dogs were planned to be vaccinated against rabies, in fact, 150,660 head of dogs and 590 head of cats were vaccinated, and the annual plan was fulfilled by 101.3%.

In 2019, 103,000 head of dogs were planned to be vaccinated against rabies, 104,733 head of dogs and 956 head of cats were actually vaccinated, and the annual plan was fulfilled by 101.6%.

In 2020, 128,300 head of dogs were planned to be vaccinated against rabies, 132,678 head of dogs and 812 head of cats were actually vaccinated, and the annual plan was fulfilled by 103.4%.

In 2021, 128,300 head of dogs were planned to be vaccinated against rabies, 133,558 head of dogs and 192 head of cats were actually vaccinated, and the annual plan was fulfilled by 104.1%.

**Table 1. About the vaccination of animals against rabies in Fergana region in 2015-2021. REFERENCE**

T /r	Year	2015	2016	2017	2018	2019	2020	2021
1	Plan	154000	154000	172000	148700	103000	128300	128300
2	Vaccinated	112056	146891	151831	150660	104733	132678	133558

3	Completion%	72,76	95,4	88,3	101,3	101,6	103,4	104,1
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Our research shows that the number of rabies vaccines in Fergana region is growing significantly, which is important in the prevention of the disease.

When we analyzed the results of the examination of pathological materials presented in the laboratory of virology of the State Center for Diagnosis of Animal Diseases and Food Safety of Fergana region for the period 2015-2022 (Table 2),

In 2015, 2 out of 95 pathological samples, in 2016, 3 out of 110 samples, in 2017, 5 out of 72 samples, in 2018, 2 out of 46 samples received positive results.

Out of a total of 82 pathological samples examined in 2019, 2020, and 2021, not a single positive result was obtained. The fact that the number of positive results has decreased in recent years is almost non-existent, indicating that rabies vaccinations and control measures in the region are well organized and implemented in a timely manner.

**Table 2. On rabies detected in pathological samples brought to the virology laboratory of the regional diagnostic center in Fergana region in 2015-2021**

#### REFERENCE

T /r	Years	2015	2016	2017	2018	2019	2020	2021
1	Provenpathological sample	95	110	72	46	41	16	25
2	The positive results obtained	2	3	5	2	-	-	-

A number of measures taken by the Regional Center for Sanitary and Epidemiological Peace in cooperation with the Department of Veterinary and Livestock Development to stabilize the epidemic and epizootic situation with rabies - to establish information exchange in cities and districts, rabies through the media Regular broadcasts and updates on the prevention of the disease, veterinary and sanitary advocacy work, and high-level reports on this issue in the mahallas show that they play an important role in improving the epizootic situation in the region.

#### Conclusion.

1. In nature, the virus is stable in rodents such as foxes, wolves, chihuahuas, rats and mice. Dogs and cats are often the source of the disease;
2. The analysis of the dynamics of the number of animals vaccinated against rabies in Fergana region revealed a sharp decline in rabies among them with an increase in the level of vaccination of animals.
3. The fact that the number of positive results has decreased in recent years is almost non-existent, and rabies vaccinations and control measures in the region are well-established and timely.

#### List of used references.

1. Salimov Kh.S. Kambarov A.A. "Epizootology". Textbook 2016 Samarkand.
2. Parmanov M.P. Bozorov Kh.K., Kambarov A.A, Isayev M.I, Saydaliyev D.I. Epizootology (textbook), 2007 Samarkand.
3. Salimov Kh.S. Rabies and measures to combat it J.Veterinary Medicine 2018 N: 2 22-24-p
4. Ведерников В., Асеев В.А. Бешенство животных. Москва, Колос. 1974-112с
5. Селимов М.А Бешенство – Москва, изд Медицина 1978-336с