

## Information on traditional veterinary knowledge of Kyrgyz people

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**Abstract:** Kyrgyz people have centuries-old history of breeding livestock. In their daily life widely were used for treatment animal products, herbs, minerals. Kyrgyz-breeders in their economic activities are permanently were faced with medication of sick animals and to protect them from dangerous infectious diseases. Kyrgyz traditional veterinary medicine has been well developed, since the roots of traditional veterinary Kyrgyz goes into the depth of centuries. "Veterinary education" was carried by oral transmission of life experience and knowledge from one generation to another, as well as a powerful "teacher" of all time, is national folklore.

**Keywords:** Ethno veterinary of Kyrgyz's, vernacular names of animal diseases, traditional treatment of animal diseases, herbs in ethnic Kyrgyz veterinary medicine

### Сведения о традиционных ветеринарных знаниях кыргызского народа

**Аннотация:** Кыргызский народ, имеющий многовековую историю разведения скота, как и другие народы и народности мира, в своей повседневной жизни широко использовали для лечения домашних животных лекарственные растения, минералы и продукты животного происхождения. Кыргызы-животноводы в своей хозяйственной деятельности постоянно сталкивались с необходимостью лечить заболевших животных и предохранять их от опасных инфекционных болезней. Кыргызская народная ветеринария была достаточно развита, так как корни народной ветеринарии кыргызов уходит в глубину веков. "Ветеринарное образование" кыргызов осуществлялось путем устной передачи житейского опыта и знаний с одного поколения в другое, а также через мощный "учитель" всех времен, народный фольклор.

**Ключевые слова:** этноветеринария кыргызов, народные названия болезней животных, традиционное лечение болезней животных, лекарственные растения в этноветеринарии кыргызов

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## INTRODUCTION

Pre-scientific knowledge of the Kyrgyz people has come a long and difficult way of development. Its unique identity does not exclude a certain influence of the knowledge of other nations. So, life experience, knowledge, philosophy has long lived nomads - Saks, Huns and other assimilated more (1). Kyrgyz people ranch cattle, as well as other nations of the world in their daily life are widely used herbs, minerals and animal products for the treatment of domestic animals (2-7). Kyrgyz people as skilful hunters had known the habits of their preys, and had had an idea about their way of life, about the routes, daily and seasonal migrations of the most vulnerable parts of the body. Ancient Kyrgyz hunters had known that the most affected area of the chest cavity is a heart, they were aware of the large vessels associated with in it. Hunters were able without damaging the liver separated from gallbladder. They successfully used the "sinew" to stitch skin and for making the bow. They had sufficiently understanding of muscle tendon endings.

The ancestors of Kyrgyz received initial information on comparative anatomy in butchering animals of different species. They saw a similarity in the structure of the same structures and organs of animals of different species. It can be supposed that the most observant of hunters to pay attention about the differences in the structure of the same organs in different species. At the same time originated and rational prevention of animal diseases. For rest and shelter of animals used in bad weather, high places with a fairly comfortable couch. Watering place preferred to from running water. Carried out simple treatment procedure and have used herbs (8). In his book "Stages of Development veterinary in Kyrgyzstan," Professor A.A. Aldashev (9) described veterinary knowledge of the Kyrgyz people that have been accumulated over many centuries. On the same theme professor A.T.Junushov recorded (10), studying history of veterinary affairs in the country. In studies of A.A. Aldashev and A.T. Jhunushov narrated that the Kyrgyz-animal breeders in their economic activities are always faced with the need to treat sick animals and to protect them from dangerous infectious diseases. Kyrgyz folk veterinary medicine has been well developed, since the roots of folk veterinary Kyrgyz go back centuries. Kyrgyz oral transmission of life experience and knowledge from one generation to another, as well as a powerful "teacher" of all time, popular folklore, carried out "Veterinary education"(11). With the help of folklore sources reach to our days and information on the wide use of many medicinal plants and animal products. Observing behavior of animal, breathing, heart beating, changing movements, eye colors, body temperatures, as well as some pathologic alterations of organs, livestock breeders differentiated individual infectious, non-infectious, parasitic diseases of cattle. For example, nasal purulent discharge of horse was diagnosed as a glanders, malleus, in Kyrgyz language manka. At blackening of the thigh muscles in cattle talked about the appearance of emphysematous carbuncle, Gangaena emphysematous, in kyrgyz language. Kara san. By animal behaviours nomads recognized colics in horses, kyr. jatalak, megrims Coenurosis, kyr. kok mee on hair loss and itching of scabies determined sheep, Psoroptosis, *kotur* or horses-kyrchangy, Scabies, pleuropneumonia of goats, Pleuropneumonia infectiosa capra, kyr. kara opko (black lung), etc.

In the future, as the accumulation of practical professional work experience among herdsmen are beginning to emerge experienced doctors. They were practitioners, empiricists (emchi, sayapker, tamyrchy, tabib, karoochu, mal bitoochy, mal taptoochy, synchy, daryger, etc.), of which tamyrchy-Tabib is a veterinarian practitioners. Drugs made by "tabibs" healers sometimes used to treat animals, e.g., in the treatment of scabies, burns, gall and other disease. Veterinary methods of healers for diagnosis, treatment, prevention of disease did not have scientific nature, as they do not understand the origin and

composition of the appointed means of treatment, and prognosis. Therefore, prescriptions are often used by healers did not have effects. However, in some people's veterinarians, doctors, surgeons for longstanding practice of accumulating a lot of experience, they successfully could have a more or less qualified veterinary, medical-surgical and preventive care to the people and earn some respect. To our deep regret, in the Kyrgyz Republic does not carry out a full study on the collection, documentation and scientific analysis of traditional knowledge in the field of ethno veterinary.

## **MATERIAL and METHOD**

In this review article, we have tried cite the well known information on traditional knowledge of the Kyrgyz people by ethno veterinary medicine available in the literature sources. In order to collect information carried out about 108 questionnaires from herders and elders from Naryn and Issyk-kul oblasts of the Kyrgyz Republic.

We are considering this article will be starting point of future studies on rich traditional ethno veterinary knowledge of the Kyrgyz people.

## **RESULT and DISCUSSION**

### **Treatment of non-infectious animal diseases**

Folk healers treated colic horses, differentiating at least 4 types of colic: 1) *tuttukma*-ureteric colic 2) *jatalak* - overfeeding, 3) *Jin jatalak* - obstruction; 4) *Suu jatalak* - colics from cold water. In this case, the owner inquired about the circumstances of the disease, i.e., collected detailed history. Perform diagnostic manipulation - *tulumdoo* - rectal examination. If the cause of colic *tuttukma* was urinary retention in vesica urinaria for long time was massaging retention bladder by hand entering into the rectum. Then, bareback horse riding were driven as quickly as possible. In *jem jatalak* cleaned by hand contents of rectum, strongly tourniquet at the area of paralumbar fossa throw cold-water animal back. Then on the horse muzzle put chanach-waterskin on, at the bottom filled some handful *talkan*-oat flour, from fried barley or wheat and fasten chanach on the muzzle, put on back of the head of animal binder, ends that fixed along the edge of chanach. After that riding the horse and inhaling with powder of barley, wheat the animal breathed *talkan*, started strongly and often coughing, snorting. Often, in this state of the animal occurred involuntary passage of gases, discharge of urine and faeces. Another way of treatment *jem jatalak* was the following: on the upper lip of animal put "chorbo"-garrot on. Usually for this purpose used "Kamchi" - Kyrgyz whip, on the handle of whip has a loop of rawhide. Horse from intense pain ceased to respond to pain of colic. At the same time, a lot of pain the horse ceased to react to the pain of colic. At this time, with "Ashtar" (scalpel) or with a sharp knife was applied incision on the wing nose of cartilage. From the wound flowed blood, after removed garrot. After such manipulation sick animals numbed for some time stood still, and then breath deep, snorting. Then beginning passage of gases and showing signs of gradually recovery. In order to prevent *jem jatalak* categorically prohibited feeding animal with grain or other concentrates without watering. Every Kyrgyz herder can treat *jin jatalak* successfully. At the diagnosis of disease differentiated by three signs: "atony of stomach, intestine obstruction, anxiety". After that, cleaning obstruction content of the rectum by hand applied stomach massage with rope tourniquet two men staying at the bilateral side of animal pulling rope stomach top to down. The procedure was lasted on for half an hour after that at first horse should be ride at a slow and then gradually accelerated the pace of movement until the horse sweated. Usually during this physical exercise in a patient animal appeared urging to urinate and excrete faeces, which is indicate favourable prognosis. Then, horse covered with cloth, put on a short leash in order to dry the sweat. Over spring and the summer period for suffering with coprostasis animal prescribed bitter wormwood, *Artemisia absinthium*,

“*ermen*”. With fresh herb, Artemisia was wound bit, curbed the horse and whiped on the headband so that, a bit slightly pulled off the corners of his lips. In such a situation, the animal is constantly forced to chew, and this contributed to chewing Artemisia, but not spitting out it because it was firmly fixed on bridle and some chewed grass involuntary swallowed. Suu jatalak (spasmolytic enteritis) treated as follows: turned auricle of sick animal, then put in garrot on the lip and held in such condition approximately ten minute, and same time massaged abdomen. After that, the horse calmed down and passaged of gases, and after a while – discharged faeces and urine. Differentiated and treated following diseases of horses, sheep and cattle: *jem tyshty* - too much drink, rheumatic inflammation of hoof, Pododermatitis rheumatic; *ak bash* - cellulitis corolla horses Rhlegmone coronae; Conoc - corneal opacity; *sylyk* – stahiobotrio toxicosis horses, Stachybotriotoxicosis equorum; *muun aksak* - rickets of lambs, rachitis; cheek - lick deases, Allotriophagy etc. Horses with rheumatic inflammation of hooves (Pododermatitis rheumatica) lead to the river and tied so that it couldn't get out of it. After two hours of such cold compress appointed an hour exercise. In phlegmon of corona (Rhlegmone coronae) on diseased leg was bandaged with rope and beaten with wooden mallet beat to bandaged hooves until coming the blood, then unwound rope, washed with lukewarm water, sheared wool around phlegmon ulcers, then moistened with fresh infant urine.

Keratitis, opacity of cornea in animal cured applying cane and charcoal powder in equal parts of sugar by blowing with tubule into eyes. In acute tympanites of rumen in cattle (Tympania ruminus acuta) treated with abdominal massage, running animal, pouring with cold water, in exceptional cases, punctured the rumen using knife. In non-infectious diseases of animal Kyrgyz folk veterinary used the most public methods of mechanical therapy (garrot, water, oil, etc.), also diet and exercise. From folk literature sources Kyrgyz herder treated fractures and displacements of the extremities of small animal and cattle were applied bandages- shakshak and cold compresses.

### **Applying of medicinal plants for the treatment of animal disease**

Widely used variety of medicinal plants: the roots of rotundifolia aconite (*Aconitum rotundifolium*, *uu korgoshun*) was applied in joint fractures of foal, rachitis *itiy* of young cattle and small ruminant; decoction and extract over-ground part (*Peganum harmala* L., *adyrashman*) watered young animals in digestive disorders; decoction and extract of Turkestan gentian (*Gentiana turkestanorum* Gand., *er baasyn*) cured young animals in digestive disorders; fresh leaves of plantain (*Plantago major* L., *baka jalbyrak*) crushed spring onions (*Allium*, *piyaz*) and garlic (*Allium sativum*, *sarymsak*) was applied to inflamed parts as a compress; as an expectorant widely used dried mint (*Méntha piperíta*, *jalbyz*), thyme and organ (*Thymus serpyllum* L., *Oríganum vulgáre*, *kok chai chop*) mixed with fodder grass, in diseases of respiratory system of animal; *Ferula* (*Ferula soongarica* Pall.), hay plant (*Prangos pabularia*), different type of wormseed (*Artemisia*, *ermen*, *shybak*), rhubarb (*Rhéum*, *yshkyn*), sorrel (*Rúmex*, *at kulak*, *kozu kulak*), ephedra (*Ephedra*, *chekendi*), hellebore (*Verátrum*), lousewort (*Pediculáris*), foxglove (*Digitális purpúrea*, *oimok gul*); zizifora tomentosa (*Ziziphora tomentosa* Juz., *jyttuu koko meren*), British inula (*Inula Britannica*, *sary bashyl chop*), touch-and-heal (*Hypericum perforatum* L., *sary chai chop*), gentian blue (*Gentiana pneumonanthe*, *kok baazyn*), dandelion (*Taraxácum officinále*, *kaakym*), nosebleed (*Achilléa millefólium*, *kaz tandai*), horse gowan (*Matricária chamomilla*, *ayryktuu gul*), caraway (*Cárum cárvi*, *zira*), maize (*Zea mays*, *jugoru*), jungar aconite, Issuk-kul aconite (*Aconitum soongaricum* Stap., *jungar uu korgoshun*, *issyk-kol uu korgoshunu*), bull's-foot (*Tussilágo fárfara*, *ogoi ene-oz ene*), caseweed (*Capsélla búrsa-pastóris*, *koichu bashtyk*), hog bean (*Hyoscýamus níger*, *ming duvana*), licorice (*Glycyrrhíza glabra*, *kzyyl miya*), water piper (*Persicária hydropíper*, *suu kymyzydygy*), common organum (*Oríganum vulgáre*, *kok chai chop*) etc other plants also were listed in drug arsenal small *tabibs* (veterinarians).

### **Applying of products of animal origin in the treatment of animal disease**

For treatment used also products of animal origin: *airan*, lactoserum (*pahta*)-as laxative; snake tissue (*jytaan eti*)-as a stimulator healing of ulcer and wound; freshly skinned rodent skins as a compress; singed wool or felt mat (*kur mushu*) against bleeding; leech (*suluk kurt*), ox gall and bear gall (*bukanyn, ayunun oty*), underbelly fat of horses (*jylkynyn kazysy*), interior and fat of sheep's tail (*ich mai and kuiruk mai*), badger's, marmot's burrow, canine fat (*kashkulaktyyn, suurdun and ittin mayi*) etc. for a different curative purpose. From mineral salts used: rock salt (*tash tuz*), saline (*blinkers*), blue stone or copper sulphate (*kok tash*), iron sulfate (*Achyk tash*), ammonium chloride (*achuu noshotur*), alum (*tattuu*), arsenic anhydride (*keperetz*), mercuric chloride (*albars*), white clay (*ak chopo*) and glauconite or bentonite (*køk chopo*). In the treatment of various diseases of animals widely used in folk medicine and veterinary Kyrgyz found a natural remedy - mummy.

### **Surgical instruments and chemotherapeutic agent**

Surgical instruments were very few; there were few instruments for introducing drugs into the body. One of them known *kartyk* - made from horn of cattle, as a tool (cup) for aspiration from inflamed parts of body remained blood, pus, and pneuma from different parts of body; *chekse* - bag for storage of medicines; *tintyyr* - diagnostic or surgical probe made from gold, silver, iron, lead or meadowsweet. Apparently, chemotherapeutic agents in the Kyrgyz traditional medicine and veterinary entered later, that is, after initiation of the Kyrgyz to Arab culture because of Islamization, or Chinese medicine, which reflected in the Kyrgyz national heroic epic "Manas".

It said about the Chinese red powder (*kytaydyn kyzyl darysy*) - medicines used to treat wounds.

Mineral salts and other chemotherapeutic agents in Kyrgyz people's medical and veterinary practice could be applied through and settled inhabiting Central Asia, the Turkic tribes with whom the Kyrgyz people common roots and Iranian tribes, which have long been communicated. However, it should be noted that not only experts, but also almost every herder in some measure, though primitive known prevention and treatment of internal, external, infectious and non-infectious diseases. For example, in treatment of cough in horses (different etiological origin) used small pieces (pills) of opium. These pills wrapped in a cloth and tied to the bit. Solution of sodium chloride used for irrigation of oral cavity in foot and mouth disease, external wounds, abscesses and phlegmon, various bruises, swelling in withers. In treatment of septic wounds applied solution of copper sulphate, black gnats (*Ceratopogonidae*) of extremities and combustible sulphur in treatment of scabies. In absence of appetite and keratitis was given orally sulphur. In inflammation of iris was applied sugar powder.

### **Information on infectious diseases of animals, attempts to prevent and treatment**

Infectious diseases of animal were big disaster of Kyrgyz nomadic's, livestock were main source of income in their existence. Kyrgyz people were afraid from infectious diseases more than forest fires, earthquakes, landslides and floods. Even enemy's attacks weren't cause as much damage as murrain of animal. Against infectious diseases, they were unarmed, they trusted only in God. It gave rise to all kinds of witchcraft and healing. Shamans also engaged with treatment of animal. A shaman is a person regarded as having access to, and influence in, the world of benevolent and malevolent spirits, who typically enters into a trance state during a ritual, and practices divination and healing. Along with them from the kyrgyz people-herders were allocated real experts of livestock diseases that knowledge in medicine and veterinary medicine "inherited". Judging by the abundance of folk names, nomads knew quite a lot of contagious

animal diseases and some anthroponosis. They are well distinguished infectious and parasitic diseases of horses. *Sako* - strangles (Adenitis equorum); *temten* or *teli* - infectious encephalomyelitis (Encephalomyelitis enzootica equorum); *sary ozok* - infectious anemia (Anemia infectiosa equorum); *jelly kurt* - African glanders (Lymphangitis epizootica), *uchunuu* - tripanozomoz (*T. equiperdum*); *Meke* - parafilyarioz (Parafilariosis); *kyzyl kurt* - gastrofilez (Gastrophilosis); *kyrchangy-* scabies (Psoroptosis equi). Cattle diseases: *olot* - epidemic pneumonia (Peripneumonia contagiosa bovum); *kok koynok* - the plague (Pestes bovina); *san kara* - "noisy" carbuncle (Gangraena emphysematosa); *jilbik* - paratuberculosis (Paratuberculosis); *okura* - gipodermatoz (Hypodermatosis); *chakalay* - scab (Favus). Also was known some infectious disease of sheep and goats: *kyl* - pox (Sheep Pox and Goat Pox); *tyynok* - moneziroz (Monieziosis); *kara opko* - infectious caprine pleuropneumonia (Pleuropneumonia infectiosa caprarurn); *kok mee-gid* (Coenurosis); *kotur* - scabies (Psoroptosis). All infectious diseases of human and animal Kyrgyz nomads considered God's punishment (kudaydyn Kaary) sent down for some sin of people, and, as they believed, each plague knows a certain evil spirit. On some illness even legends. It believed that the spirit of rinderpest wearing blue shirt, and therefore the disease called "kok koynok. Efforts to prevent and treat certain infectious animal diseases nomadic herder were quite varied; some of them are interested in scientific and historical aspects. Strangles (*Streptococcus equi*) of horses considered disease of young animal as a children measles, it must have had all foals. In order to accelerate course of infection in a patient foal opened abscessed submandibular lymph nodes with sharp-pointed bone knife, usually made of roe, deer antler, or from scapula of large animal. Healthy foal's lips smeared with strangles pus. FMD animals cured with sodium chloride, with saturated solution irrigated oral cavity ulcers and between hoofs. Healthy animals' lips were smeared with sick animal saliva. Scabies of horses treated with weak solution of alkali, soapy water and extract of root ferrule. In scabies sheep and goats, animals were running across the thickets "kekire" (bitter cornflower, *Centaurea cyatius* L.). In foot-rot (*Paronychia contagiosa*) of sheep were treated with hot roasted sheep's fat-tail and burnt copper sulphate. If case of rabies all dogs cauterized with red-hot iron the bridge of nose. Carbuncle form of anthrax treated by cauterizing with red-hot iron circumference of the lesion, and then with the same iron crisscross labeled its surface. In plague (rinderpest) epidemic pneumonia of cattle, leaving all diseased herds, moved on faraway, necessarily through some river. At appearance of disease notified neighbors. In contagious caprine pleuropneumonia, all sick goats slaughtered, and neighbors drive their flocks out to far away from outbreak of disease pasture. In botfly (*Oestrus ovis*) animal diseases. Although the Kyrgyz called gadflies different animals in different ways: the saigak antelope - bullish gadfly (*Hypoderma bovis*), *ylaa* - equine or gastric gadfly (*Gasterophilus intestinalis*), *bogonok* - sheep, or cavity gadfly (*Oestrus ovis*). They asked for help from traditional healers, shamans, witches and like ground "representatives" of the heavenly lord - Tengri. They proceeded to "cure" their best calling up spirits - «tutelary saint», resorted to variety of outlandish tricks, and the infection is still not disappeared. Persuading futility of his efforts to "heavenly messengers" authoritatively declared that it is God's punishment for sins of the owner, or whole race without much persuasion *Tengri* they wouldn't smile. This way began sacrifice – slaughtering healthy animal. After the adoption of Islam Kyrgyz shamanism was back away, but its place took mullahs, who "treated" patients' with talismans. Talisman was written –Koran ayat's was covered with leather or triangle form of paper. Talismans have been worn at the neck protecting from "evil eye", "evil spirit" valuable producers, well-known racers.

In conclusion, should be noted, the most listed above medication and veterinary practices no scientific basis and are more ethnographic and historical interest than medical science.

Nevertheless, after years, more and more are convinced that the Kyrgyz people as skilled herdsmen had rich traditional knowledge in the field of ethno veterinary medicine, which was passed on from generation to generation orally through powerful national folklore. In Soviet period development of Kyrgyz ethno veterinary knowledge considered unscientific. In this connection haven't collected, analysed and documented. However, every year there are fewer people carried and kept this knowledge. Therefore, we consider carrying out large-scales of ethno veterinary research.

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