



Institutionalization of veterinary science in colonial India

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Abstract

This brief report examines the origin of the Western veterinary medical science and development of various veterinary medical Institutions in India during the colonial period. The veterinary science has been in existence in India since the ancient period. During the medieval period, the animal husbandry was also paid attention. But, with the expansion of British rule, the whole scenario of animal husbandry practices changed in India. The cattle diseases such as Cattle Plague (Rinderpest), Foot and Mouth Disease, Anthrax, Haemorrhagic Septicaemia, Blackquarter etc. were widespread and these had an adverse effect on the economy and public health in India. There were no veterinary schools and colleges to control the animal diseases during the pre and early colonial period. The Indian Cattle Plague Commission (1869) recommended the establishment of veterinary institutions under the colonial management. As a result, Imperial Bacteriological Laboratory was established at Poona (1890); further, shifted to Mukteshwar in 1893 with a branch of Izatnagar (1913). Within a decade of its introduction nearly half a million doses were being administered annually. The introduction of the Western veterinary science was an important landmark in the history of the Indian animal husbandry. The beginning of animal vaccination was an important milestone which ushered in the process of immunization for the animals.

Keywords Anthrax · Bacteriology · Immunization · Rinderpest · Vaccination · Veterinary

1 Introduction

Veterinary Science was in existence since ancient period. The development of veterinary science had been influenced by economic and social condition. In ancient India, animal husbandry was considered as a profitable profession even by the kings and feudal lord of the society. Even Emperor Asoka (269–232 BCE) made efforts to encourage veterinary medicine as it was linked to wealth of the empire. The evolution of modern veterinary science and profession has taken place during colonial period in India. As a part of the East India Company's interest to improve the quality of horses and bullocks for the military purposes; modern veterinary science in India was introduced with the establishment of horse breeding farm in 1774.

Latter British Civil Veterinary Department was established for the improvement of animal health. Then there were established numbers of veterinary colleges, schools, experimental stations, and laboratories about the veterinary science in all presidencies. By 1892, a Civil Veterinary Department was established to control disease and improve breeding of civil livestock in India.

With the advent of colonialism in India, the cattle and human relations and the condition of human health had been affected. The cattle diseases such as Cattle Plague (Rinderpest), Foot and Mouth Disease, Anthrax, Haemorrhagic Septicaemia, Blackquarter etc. were widespread and these had an adverse effect on the economy and public health in India. In the 1860's Rinderpest was ravaging the countryside on a wide scale and was responsible for the loss of nearly 10 lakhs cattle every year. More than one million cattle and buffaloes had died in India in 1870. Within the space of sixteen years at the end of nineteenth century, the province of Berar lost nearly eleven million cattle to disease, which was almost equivalent to the cattle population of the province. So a large number of animal diseases proliferated and cattle were unfit for plowing during that period. According to the Imperial Gazetteer

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of India, approximately one million cattle perished in the famine (1898–1899). A large number of people and cattle were being decimated in Colonial India from famine and drought as millions of cattle perished.

Consequently a large area of the Colonial India's agricultural process deteriorated. Hence, in the present study an attempt has been made to understand the process of institutionalization of veterinary science in colonial India. The study also tries to explore the status of cattle health, veterinary policy and indigenous veterinary medical practices and the practices of Western modern veterinary science during the colonial period. The main objectives of the study are to: (i) study the development of veterinary science in Pre-colonial India (ii) explore the condition of cattle during colonial period in India (iii) study the growth and development of veterinary science in colonial India (iv) study Western Veterinary policies and practices and (v) explore the indigenous methods and practices of veterinary medicine.

The study was carried into the following chapters:

- i. Introduction
- ii. Development of veterinary science in Pre-Colonial India
- iii. Condition of Cattle in India
- iv. Growth and development of veterinary science in colonial India
- v. Western veterinary policy and practices
- vi. Indigenous methods and practices of veterinary medicine
- vii. Conclusion

2 Development of veterinary science in pre-colonial India

The major findings of the study are discussed in the following paragraphs according to the objectives of the study. The first objective of the study was to study the development of veterinary science in Pre-colonial India. This has been discussed in Chapter II entitled "Development of veterinary science in Pre-colonial India." Veterinary science is the branch of knowledge that deals with the anatomy of the domestic animals, their breeding, feeding and hygienic management, the pathology and mode of treatment of their diseases and injuries. During the Stone Age, animals like dogs, goats, sheep, cattle, buffalo, pig, elephant, horse, camel and ass were domesticated in India. In the *Rgveda*, animals were considered to be as valuable as wealth. Surgical interventions for treatment of animal and use of herbal medicines for curing various diseases of man and animals were cited also in *Atharvaveda*. There had been evidence on the existence of literature on veterinary

science in *Rgveda*. In the early stage of Aryan civilization cattle formed the principal property of the people.

The veterinary science was an essential service during the Mauryan period also. This period can be considered as the golden period of veterinary science in ancient India. During Mauryan period there were separate livestock departments under Chandragupta Maurya (322–298BCE) and there were separate veterinary doctors for horses, elephants and cattle. Megasthenes in his book '*Indica*' has also described about Veterinary science and animal husbandry.

Shalihotra was the first known veterinarian of the world and the father of Indian Veterinary Science. In ancient India, the treatment of animal diseases was well developed and performed with great care. He was the first one to work on equine medicine or Haya-Ayurveda. Elephants were very important animals in the Mauryan Period. Palkapya was the ultimate authority on elephant's medicine and surgery in India. He is famous for his Hasti-Ayurveda. Several Sanskrit works on elephant science have been preserved to modern times. Horses became more important as 'war animals' during the Gupta period. Sumudra Gupta, the famous Gupta King, performed an '*Aśvamedha yajña*' or horse sacrifice to proclaim his imperial power. Due to the availability of natural facilities of breeding, feeding and grazing, animals flourished in the ancient times.

The medieval period also witnessed the domestication and care of animals. The horse and elephant were integral elements of armed forces and also effective symbols of power and prestige in society. The horses were in great demand for their usefulness in warfare. The *Āīn-i-Akbarī* is an important source book for animal husbandry in India in the sixteenth century. It provides information on the breeding and feeding of elephants, horses, mules, camels and cows. The Mughal emperors also recognized the importance of cow preservation in India. The invention of the horse-shoe was one of the most important events in this period. Babar was more respectful towards the cow. Akbar being influenced by the *ahimsā* principle of Jainism, implemented prohibition of cow slaughter in his dominions. Tipu Sultan, king of Mysore, played a key role in horse breeding for military purpose. To conclude we can say that during the Pre-colonial period several initiatives were taken to preserve and protect cattle. There were several methods of treatment to deal with diseases of animals. Overall veterinary science was quite satisfactory in the Pre-colonial period.

3 Condition of cattle in colonial India

Chapter III deals with the causes of cattle diseases, its spread and deterioration of condition. With the advent of the colonial rule in India, the relationship between cattle and human had transformed and the whole scenario of cattle condition



changed. Cattle importation was one of the main causes for the spread of animal diseases during the colonial period. As part of inter-province export–import policy, British allowed unrestricted movement of cattle from one place to another. A large numbers of cattle were imported to India from abroad during this period. These imported animals in course of their contact with the indigenous animals affected the latter with diseases. As a result, quarantine stations were established in every port in India.

The cattle and horse fairs and horse-shows played a vital role in spreading cattle diseases. It was organized throughout the year by the revenue department. Besides this, trading in hides and skins were also responsible for the spreading of the diseases. Further the slaughter houses and places of carcasses (*Bhagar*) were generally surrounded by the jackals, vultures and other animals. They obtained and carried virus infected pieces of flesh which were also responsible for spread of the cattle diseases.

The environmental degradation also played an important role in the spread of cattle diseases. The cattle population was affected due to environmental degradation. With the establishment of British colonial rule, health condition of the cattle deteriorated. Rinderpest or Cattle Plague, Foot and Mouth Diseases, Anthrax, Haemorrhagic Septicaemia and Black quarter were the principal diseases of animals in colonial India. The colonial economic policies of the early nineteenth century led to commercialization of agricultural and forest land, extension of railways and road communication. The military camps established in the forest areas etc. led to scarcity of grazing ground for cattle, and was also responsible for the shortage of fodder. It resulted in slow deterioration of the cattle population due to scarcity of grazing ground for cattle, and was also responsible for the shortage of fodder. It resulted in slow deterioration of the cattle population. The commercialization of agriculture, British land revenue system and the forests policies were the main reasons behind the decrease in the grazing land. The forest and grazing areas came totally under the direct control of the British government. It restricted the local communities from using pasture land as well as forest areas. In this way the process of ‘fencing the forest’ was carried on. In the latter half of the nineteenth century and the first half of the twentieth century, India suffered from devastating famines, due to insufficient rainfall and drought. This led to scarcity of fodder and water which caused devastation on cattle population. The devastating famines broke out during 1876–78, 1896–97, 1899–1900 and 1943, which is under review. Among them, the famine of 1943 ruined Bengal.

The slaughter of cattle was also another important factor of the loss of cattle in India. In addition to this, the unscientific and cross breeding was one of the main causes of deterioration of the number of cattle. One of the reasons behind the deterioration of cattle was wrong breeding method where

sometimes cattle owners were permitted to breed too young heifers. As a result the progeny became very poor and frequently suffered from diseases. Apart from this, a large number of finest breeds of Indian cattle and calves were exported to foreign countries. According to Blue Book 1921, every minute a cow was exported out of India. Among the other causes of decreasing cattle population were epidemics and diseases, as well as insufficient veterinary aid.

4 Growth and development of veterinary science in colonial India

The various factors responsible for the growth and development of veterinary science in colonial India and establishment of various veterinary institutions during colonial period are discussed in Chapter IV. It was found that the East India Company occupied different parts of Indian subcontinent and observed the existing barriers of communications and transport. They had to depend on beasts for transport and found that Indian horses were not suitable for war and transport. In addition, to fulfill the need for ensuring steady supply of meat and milk to the army personnel, British initiated establishing horse breeding institutions, develop colonial veterinary policy, establish dairy farms and set up slaughter houses.

The colonial military and economic needs led to the establishment of western veterinary institutions in India. At the initial stage, the British East India Company introduced veterinary science to fulfill their military purpose. They felt the need of war-horses to accomplish their ambition to establish their colony in this sub-continent. It is well-known that India lacked in high quality war-horses and the import of strong war-horses from Arabia met their requirement. The Army needed meat and milk for their physical strength and fitness. Some slaughterhouses were set up within the military campus to supply meat (especially mutton, beef and pork) and there was a huge demand for cattle for this.

The economic factors led to the launch of western veterinary policies in the Indian sub-continent. Healthy and quality cattle breeding were one of the principal reasons for implementation of British veterinary policies. There was a great demand of healthy cattle in the foreign markets. The colonial rulers wanted quality stallions for superior horse breeding. Apart from this, they introduced cross-breeding system for getting milk in large quantity. There was also a commercial motive as well. The cattle hide, meat, bones, hair and wools were exported to the Europe as well as some parts of American continent. Besides these, there was also the need for cattle, especially bullocks and buffalos for agriculture and transport. The cattle manure was used as fertilizer especially for cash-crops like tea plantation and others.

According to Sir Percival Griffiths, cattle manures had been best for tea plantation.

During the seventeenth century, ‘British East India Company’ came to this sub-continent. One of the major problems faced by the Colonists in India was the warm climate and they eventually suffered from various diseases. With the expansion of colonies, there was an increased demand for officials and soldiers. Beside these, the issue of malnutrition of human body was indirectly associated with cattle. It led to the foundation and institutionalization of veterinary sciences by the British Government in India. Moreover, cattle were used for medical purposes as well. Some vaccines were being prepared from animal ‘antibody’. Dogs, cows and horses, rabbits and guinea pigs were frequently used for preparing vaccines and testing drugs.

The famines, drought and diseases during colonial period caused severe impact on animal population destroying them in huge number. More than one million cattle and buffaloes had died in India in 1870s. The cattle plague alone ravaged the countryside on a wide scale and was responsible for the loss of nearly 10 lakh cattle in the 1860. Therefore in 1869, the colonial authority set up Indian Cattle Plague Commission headed by J.H.B. Hallen, a civil Surgeon, to inquire into the matter. It can be said that the large destruction of cattle due to famines, drought, different diseases like cattle plague or rinderpest, anthrax, foot and mouth and others added significant momentum to the aforesaid factors which compelled the British Government to implement British Veterinary policies in this sub-continent. All these factors led to the establishment of various veterinary institutions such as Imperial Bacteriological Laboratory, Indian Veterinary Research Institute, Bombay Veterinary College, Bengal Veterinary College and Institute of Veterinary Preventive Medicine, Ranipet etc. by the British Government in India. Besides, a number of veterinary college, laboratory and civil veterinary departmental activities took place.

5 Western veterinary policy and practices

The Western veterinary policies and practices, preventive measures adopted by the colonial government and administration in respect of diseases like Rinderpest, Foot and Mouth disease, Anthrax, Haemorrhagic Septicaemia, Black quarter etc. have been discussed in Chapter V. Also in this chapter discussion has been made on the policies and measures adopted by colonial administration for the improvement of cattle health. The colonial government established the Imperial Bacteriological Laboratory to find a remedy against these hazardous diseases. They introduced vaccination, serum, dispensary and hospital for the cure of the livestock. At the same time Civil Veterinary Department was established for the improvement of the livestock in 1892. Then

Bacteriological Laboratory at Mukteswar and Izatnagar prepared vaccines and anti-serum for the prevention and cure of animal diseases. Within a decade of its introduction, nearly half a million doses were being administered annually. Some of these, which were simpler, were manufactured at the provincial serum institutes. There were two vaccine production centres at Calcutta, which used to inoculate about five lakhs animals during 1940–41. Gradually animal diseases reduced, but due to the lack of adequate number of veterinary doctors and proper veterinary staffs, it was not possible to control animal diseases in a vast country like India.

According to the report submitted by the Royal Commission of Agriculture in 1928, it was decided that one veterinary assistant surgeon would be employed for an average of 25,000 cattle. But practically it was impossible for a single man to look after such a huge number of cattle. It is worth mentioning here that the mode of cattle treatment through the ‘vaccination’ was not available everywhere, particularly in the rural areas. Alternatively, different indigenous medicines were used.

6 Indigenous methods and practices of veterinary medicine in colonial India

To explore the indigenous methods and practices of veterinary medicine in Colonial India, a detailed investigation has been made and presented in Chapter VI. Before the medical intervention of the British, indigenous veterinary systems of medicine were prevalent in India. There were several medicinal plants, grasses, shrubs and herbs which were used for the treatment of animal diseases. Indigenous system was no less significant than western medicine. India had her own tradition of veterinary science and knowledge. Indian indigenous veterinary science was claimed as rich as western medical practices. Beside various state veterinary medical measures for the control and prevention of contagious cattle diseases, the colonial government also passed several legislations. The principal reason was that they realized the necessity of several legislations mainly for safety of the British officers staying in India as well as the common livestock owners (natives).

7 Conclusion

The present study seeks to understand the process of institutionalization of veterinary science in colonial India. The study also tries to explore the status of cattle health, veterinary policies and indigenous veterinary medical practices and the practices of Western modern veterinary science during the colonial period. In the Pre-colonial period



several initiatives were taken to preserve and protect cattle. The veterinary science was an essential service during the Mauryan period and this period can be considered as the golden period of veterinary science in ancient India. Animal husbandry also made great progress during the medieval period.

With the advent of the colonial rule in India, the relationship between cattle and human had transformed and the whole scenario of cattle condition changed. The commercialization of agriculture, land revenue system, British forest policy, the expansion of roads and railways and decrease in grazing lands were instrumental in creating an environment hostile to the cattle. The natural disasters like draught, famine and recurrent floods were also responsible for cattle death. These led to decline of cattle and large number of cattle diseases proliferated all over India. Thus, colonial development policies and practices had far reaching impact on the condition of cattle. Gradual diminution of grazing field, lack of food, export of healthy cattle, unscientific breeding, cattle slaughter, epidemic and diseases also played crucial role in deterioration of the cattle health. All these factors led to the foundation and institutionalization of veterinary sciences in India by the colonial government.

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