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Dogs, Rabies and the Filipinos: The Anti-Rabies Campaign in the Philippines, 1910-1934

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Abstract: Rabies was a major public health and veterinary problem in the Philippines ever since the disease was proven to exist in the country in 1910. With the recognition of the existence of canine rabies in the Philippines during the American period, the Philippine Health Service and the Bureau of Science classified this zoonotic disease as one of the most dangerous diseases in the country. Likewise, the Bureau of Agriculture also included rabies in its list of the most communicable animal contagions in the Philippines. Since 1910, health authorities received many reports of human and dog rabies cases. As a result, the colonial government had vigorously campaigned against the spread of rabies throughout the country. To control the spread of rabies between dogs to humans and dogs to dogs, different agencies of the colonial government enacted and enforced sanitary measures. These policies involved a gamut of human, environmental and veterinary medical policies that aim to protect the health and safety of humans, canine animals, and the environment as well. In this paper, I shall investigate the reasons behind the increasing number of human rabies cases in the Philippines during the American period (1910-1934). I will also discuss how the One Health Concept or the interaction of human medicine, veterinary medicine and the environment was utilized by the American colonial government in the anti-rabies campaign in the Philippines. Moreover, I shall also examine the challenges faced by the anti-rabies campaign in the Philippines during the American period.

Key Words: Negri Bodies; Rabies; Philippine Health Service; Bureau of Science; Dogs; Hydrophobia

1. INTRODUCTION

Rabies is a dangerous and fatal disease caused by the rabies virus (RABV), a bullet-shaped RNA virus of the Lyssavirus genus of the Rhabdoviridae family. The rabies virus spreads through the saliva of an infected animal and moves slowly from the bite wound as it attacks the central nervous system and the brain through the peripheral nerves. Once the rabies virus reaches the brain, the disease becomes incurable causing the immediate death of the animal or human. Rabies is difficult to diagnose among patients right away because of its long incubation period. Symptoms of the disease sometimes manifest after several weeks or months. Thus, a rabies victim does not know that he or she has rabies until the early signs of the disease becomes apparent after sometime.

A study commissioned by the World Health Organization (WHO) in 2004 revealed that the annual number of deaths worldwide due to rabies is estimated to be about 55,000 and it is mostly from documented from rural areas of Africa and Asia. In the study, about 56% of the deaths due to rabies were recorded from Asia and the remaining 44% came

from Africa. In the Philippines, most of the studies on rabies which were written by medical doctors, health practitioners and veterinarians have been penned and documented in medical journals and literature. However, no historian has seriously written a study about the medical history of the rabies in the Philippines during the American colonial years. Thus, I believe this study is a worthwhile and relevant academic endeavor because of its timeliness and relevance to Filipino society since rabies remains and continues to be a public health issue and a veterinary problem in the Philippines. An examination of the history of the rabies problem in the Philippines will provide valuable lessons and insights as to how the American colonial government dealt with rabies during the early twentieth century.

As a pioneering study on the history of canine rabies in the Philippines during the American period, this research discusses why rabies become a health problem in the Philippines during the American period. It explains how the American colonial state addressed the rabies problem in the Philippines. It also examines the challenges and problems faced by health and veterinary authorities in the control and management of rabies. The time frame of study starts in 1910 when Dr. F.W. Dudley, and Dr. Eugene R. Whitmore proved the existence of rabies in the Philippines based on clinical investigation of the Bureau of Science. It ends in 1934 the year prior to the establishment of the Commonwealth Government. The paper focused only on canine rabies since most of the rabies cases recorded in the Philippines since the American colonial era were predominantly caused by dog bites.

2. METHODOLOGY

The study is a descriptive analytical study that explains the history of canine rabies in the Philippines during the American occupation. It utilizes various primary sources which include government documents and reports such as the *Report of the Philippine Commission to the Secretary of War, Annual Report of the Governor General of the Philippine Islands, Annual Report of the Bureau of Health for the Philippine Islands, Report of the Philippine Health Service (1916-1931), and the Annual Report of the Bureau of Animal Industry.* It also used various articles from the *Philippine Journal of Science* and the *Manila Times.* The study also used secondary sources such newspaper articles and online journal articles.

The research appropriated the One Health Concept as the framework of the study. This interdisciplinary concept underscores the strong interaction of human medicine, veterinary medicine, and the environment in the control and eradication of different forms of diseases particularly the emerging infectious diseases and the zoonotic diseases among humans and animals.

3. RABID DOGS AND HUMAN RABIES IN THE PHILIPPINES

Rabies is a human and veterinary health problem in the Philippines but its rapid transmission between dogs to dogs and other animals and dogs to humans can be attributed to an important environment factor. Rabies spread in the Philippines due to the presence of a large number of unlicensed and dangerous stray dogs and curs that roam around the streets of Manila and the provinces (Philippine Health Service, 1921). The presence of stray dogs as an environmental problem did not start during the time of the Americans because since the Spanish period, a large number of stray dogs already roam the streets. Lieutenant General Sir William Draper (1907), a British military officer during the British Invasion of the Manila (1762-1764), mentioned about the presence of stray and undomesticated dogs in the streets of Manila. Stray and unruly dogs were not only rampant in Manila but also in the provinces. In the Island of Cebu, Fray Juan de Medina (1905, p. 160) mentioned that there are "unruly dogs" that roam and became incontrollable in the field. Stray dogs and curs caused the immediate spread of the rabies virus because these animals act as foci or source of the disease (Philippine Health Service, 1917; 1921).

3.1. The Discovery of the Negri Bodies in Suspected Rabid Dogs, 1910

When the Americans colonized the Philippines in 1898, health authorities were not yet convinced that rabies among dogs and humans already existed in the Philippines. Despite the fact that there were a few documents stating the existence of rabies cases in the country, the American colonial government was uncertain of its veracity

since there were no clinical laboratory examinations done to verify the allegation.

Dr. F. W. Dudley, formerly an attending surgeon at St. Paul's Hospital in Manila and a member of the faculty of the Philippine Medical School, believed that rabies or hydrophobia has already existed in the Philippines since 1902. Dudley made the conclusion in a paper that he presented during the meeting of the Philippine Islands Medical Association on February 28, 1907. In his paper entitled, "The Prevalence of Hydrophobia in the Philippine Islands," Dudley gathered a total of 158 deaths due to hydrophobia among humans and since then got additional reports of 244 deaths. In total, there were 402 reported cases of human deaths due to hydrophobia in the Philippines "since about October 1, 1902" (Philippine Health Service, 1917; 1921). Dudley added that 31 out of the 39 provinces in the Philippines excluding Manila and Mindanao have reported deaths due to hydrophobia (Dudley and Whitmore, 1910).

Dudley's conclusion, however, was not yet proven since no examination of either dogs or human patients who died of rabies have been conducted by a physician. Thus, to verify Dudley's claim that rabies really existed in the Philippines, Major Eugene R. Whitmore of the United States Army Medical Corps conducted a clinical study of suspected rabid dogs (United States Philippine Commission, 1911; Bureau of Health, 1910). To facilitate the investigation, a circular letter dated April 1, 1910 was sent by the Bureau of Science to all district health officers, medical inspectors, and physicians of the Bureau of Health including all the heads of the municipal boards of health throughout the Philippines requesting them to send "the heads or brains of animals killed for, or dead of, suspected rabies; the material to be sent packed in ice, or in 50 percent glycerine where ice was not available" (Bureau of Health,1910; Dudley and Whitmore, 1910). Dr. Dudley assisted Whitmore in obtaining the brain tissue materials from the provinces that were used in the investigation (United States Philippine Commission, 1911).

As a response to the circular letter of the Bureau of Science, Dr. Salvador Gomez, a physician from Angeles, Pampanga sent the bodies of two dogs that had been bitten by suspected rabid dogs. In the report, the two dogs that were bitten by a suspected rabid dog were tied up by their owners since the day it was bitten on March 22, 1910. A few weeks later, the two dogs became sick. Suddenly, the dogs stopped eating and saliva from the dogs' mouth drooled. Dogs showed a tendency to snap and started to bite everything. Convinced that his dogs were infected with rabies, the owner decided to kill the dogs by "striking them over the head with a club." An examination of the dog's brain tissue proved the presence of Negri bodies in the hippocampus and cerebral cortex of the first dog and in the cerebellum of the second dog. Tests were done to confirm if the Negri bodies found in the brains of the dogs cause rabies. Test results showed the presence of Negri bodies in the dog brains (Dudley and Whitmore, 1910).

On May 29, 1910, Dr. Ambrosio Reyes diagnosed a human case of rabies from one of his patients in Manila. The patient was an eight-year-old boy who was bitten in the left forearm by a "strange dog" while he and the other children were playing in a street located near the boy's house. The poor child was bitten by the stray dog on April 5, 1910. Dr. Reyes immediately attended the child's wound and was treated with carbolic acid. After eight days, the wound healed but a month after the incident, other symptoms manifested. After observing the condition of the boy on May 28, 1910, Reyes concluded that the poor child was infected with rabies and died of convulsion (Dudley and Whitmore, 1910).

The diagnosis of patients who died due to hydrophobia proved the presence of rabies in the Philippines. With the results of the clinical work done by Whitmore and Dudley (1910), it has been proven that rabies really existed in the Philippines. With the formal declaration of the existence of rabies in the Philippines, Whitmore immediately travelled to Saigon, Vietnam to visit the first *Institut Pasteur* in Asia. He was tasked to bring the fixed virus strain of rabies in animals that was used at the Saigon Pasteur Institute which will be used to reproduce the vaccine against humans bitten by rabid dogs (Dudley and Whitmore, 1910).

With the formal declaration of the existence of rabies in the Philippines in 1910, the American colonial government considered rabies as one of the most dangerous diseases that threatens both humans and canine animals in the Philippines. The Bureaus of Health (later called as the Philippine Health Service) and Science monitored human cases of rabies throughout the country. Alarmed by the existence of rabies, the Health Service Bureau released Health Bulletin No. 21 which included rabies in the list of dangerous and fatal diseases

(Philippine Health Service,1919). It must be noted that prior to the discovery of the rabies virus, the presence of the Negri bodies in the brain tissue of rabid dogs was used to diagnose rabies among rabid animals (Henry and Murphy, 2017). The Bureau of Agriculture, the government arm responsible for the health of domestic animals, was also concerned with the rabies problem in the Philippines. For its part, it released Administrative Order No. 55 which listed rabies as one of the most "dangerous and communicable animal diseases" in the Philippines (Bureau of Agriculture , 1926).

3.2 Demography of Rabies Victims

The Bureau of Science gathered all the available data to show the demography of human cases and deaths due to rabies from 1914 to 1933. Based from the total number of persons who received the Pasteur treatment from the Bureau of Science, there were 17,858 human cases of rabid dog bites recorded in the Philippines from 1914 to 1933. From this number, 63.53% or 11,345 cases were males and only 36.47% or 6,513 cases were females. About 98.61% or 17,609 cases were bitten by suspected rabid dogs while less than 2% of the cases were bitten by cat, monkey, horse, pig, rat, and rabbit. Based on the ethnicity of those bitten by suspected rabid dogs, majority of the suspected rabid dog bite cases reported to the Bureau were Filipinos (16,682 cases), followed by Europeans and Americans (975 cases), Chinese (112 cases), Japanese (83 cases), Hindus (5 cases), and Negro (1 case). From the 16,459 cases of suspected rabid dog attack that received treatment from the Bureau of Science, 14 deaths were registered. Eleven of the deaths recorded were male and three were female. Based on age, six children below nine years old died. Four patients who died of rabies were between 10 to 19 years old. Two rabies patients whose ages are from 20 to 30 years old died while the remaining patients who died were 30 years old and above (Vazquez-Colet, 1935).

4. THE ANTI-RABIES CAMPAIGN, 1915-1934

4.1 The Rabies Law: Act No. 2461 (1915)

On February 4, 1915, the Philippine Legislature (1916) passed Act No. 2461 or *An Act to Prevent the Spread of Hydrophobia or Rabies and Providing Punishment for Infraction of the Provisions of this Act.* Also known as the Rabies Law of 1915, the Act empowers the Director of Health to determine and declare the existence of rabies "among dogs and other animals in any community" where it be considered as "a grave menace to the public health." With the approval of the Secretary of the Interior, the Director of Health publicly announces the existence of rabies in a community through a notice which is published in a local newspaper and in one or more common areas located within the community. The notice must contain a description of the rabies infected area. It shall also provide dog owners or other animal owners advice on how to prevent the spread the rabies in the locality (Philippine Legislature, 1916; Philippine Health Service, 1916).

4.2 Circular 0-34 of the Philippine Health Service (March 31, 1916)

To accomplish the task of ending canine and human rabies, various government agencies were involved in the control and suppression of canine rabies in accordance to Circular 0-34 of the Philippine Health Service. It included the Police Force of the city of Manila, the Philippine Health Service, the University of the Philippines College of Veterinary Science, the Bureau of Agriculture, and the Serological Department of the Bureau of Science (Philippine Health Service, 1918).

The anti-rabies measures implemented by the different government agencies was characterized as brutal and vicious because these policies centered on the extermination of stray dogs and suspected rabid dogs. As a precaution against rabies, the Philippine Health Service and the Bureau of Science implemented the extermination of stray dogs by poisoning. This policy was implemented in accordance to Health Bulletin No. 11 published by the Philippine Health Service in 1919. Dr. Eugenio Hernando (1919), Chief of the Division of Sanitation in the Provinces, wrote the instructions on how to poison stray dogs. According to the bulletin, strychnine, a highly toxic and colorless pesticide used as dog poison, must be prepared by a sanitary inspector under the supervision of the president of the sanitary division. Strict precautionary measures were also followed to ensure the safety of the persons involved in the poisoning of the canine animals (Philippine Health Service, 1919).

4.3 Dog Muzzling and Licensing in Manila

The Bureau of Health recorded a significant number of rabies cases in the city of Manila. As a result, the municipal board of Manila enacted Ordinance No.306 or the muzzling law. The ordinance was a sanitary ordinance for the city of Manila which is under the direct supervision of the Philippine Health Service. It ordered all dog owners to muzzle their dogs in accordance to the provisions of the Rabies Law (*The Manila Times*, 1917).

4.4 The Pasteur Treatment against Rabies

The Bureau of Science manufactured the anti-rabies serum and administered the Pasteur treatment to those who were bitten by stray dogs whether rabid or not. In 1911, a free Pasteur Institute has been opened in collaboration with the Bureau of Science (Bureau of Health, 1911). The rabies vaccine was formally institutionalized as an anti-rabies treatment in the Philippines since April 23, 1914. All rabies victims are asked to immediately report to the Bureau of Science in Manila for immediate action and proper documentation. If they cannot come to Manila, treatment is sent to the province and administered by a physician. If possible, the suspected rabid dogs must be brought alive to the Bureau of Science for examination (Bureau of Health, 1911). The treatment is made up of 25 subcutaneous injections which is given once a day and injected at the back or in the interior abdominal wall of the patient. The dosage of the injection depends on the age range of the patient (Vasquez-Colet, 1935).

According to the Bureau of Science, the Pasteur treatment was administered to 17,858 persons from April 23, 1914 to December 31, 1933. Based on the available data, 63.53% or 11,345 patients who received the anti-rabies serum were male and 6,513 patients or 36.47% were female. From the 11,345 cases, 52.3% or 9,339 cases received complete anti-rabies treatment while 8,519 cases or 47.7% did not complete the Pasteur treatment because they only received one to fourteen injections only. The mortality rate of those who received the complete treatment was only 0.049 percent (Vasquez-Colet, 1935).

4.5 Dog Vaccination against Rabies

By 1931 the Veterinary Research Division of the Bureau of Animal Industry already manufactured an anti-rabies vaccine for animals in the Philippines (United States Governor General of the Philippine Islands, 1932). The anti-rabies vaccine for animals was produced by the Veterinary Research Division. In the 1934 Report of the Bureau of Animal Industry, Dr. Victor Buencamino (1935), Director of the Animal Industry Bureau, stated that a veterinarian from the Bureau was sent to Baler in the province of Tayabas to check an outbreak of rabies in dogs and horses. The veterinarian had vaccinated a total of 70 dogs and 28 horses against rabies in the said town. Moreover, anti-rabies vaccination on dogs was also conducted in the provinces(Bureau of Animal Industry, 1935).

5. ANTI-RABIES CAMPAIGN: PROBLEMS AND CHALLENGES

The main challenge faced by health authorities in their fight against rabies was the presence of a large number of unlicensed and stray dogs that roam the cities and the provinces. Because of the failure of municipal councils to enforce an ordinance that compels the muzzling of dogs, many stray dogs remain unclaimed or unattended by its owners (Philippine Health Service, 1917; Philippine Health Service, 1921).

Many municipal councils from the provinces did not implement the anti-rabies measures because there was a "great deal of passive resistance" from the public (Philippine Health Service, 1917; Philippine Health Service, 1921). Majority of the municipal councils in the provinces believed that dog muzzling, dog poisoning, and other sanitary measures were very unpopular with the people. Local legislative councils were fearful of the political ramification of these very unpopular policies if implemented in their localities (Philippine Health Service, 1918).

The opposition to the muzzling policy can also be attributed to the customary role of dogs to Filipino lowland society. Filipinos believed that the "adoption of such measures would interfere with the custom of the people of the barrios to use dogs as guards…" The dog muzzling policy was not implemented because the public believed that dogs must be unrestrained to act as house guards (Philippine Health Service, 1918).

The anti-rabies inoculation also faced challenges. The primary problem of the Health Bureau regarding its vaccination program was the late reporting of dog bite cases. According to the Philippine Health Service, the common cause of death of a person bitten by a suspected rabid dog can be attributed to the "delay in the [victim's] submission to the treatment" (Philippine Health Service, 1922). The victims would only go to a health personnel once the advanced symptoms of rabies have already manifested. There are also instances when a suspected rabid dog bite case remained totally unreported and never "brought to the knowledge of the sanitary personnel"(Philippine Health Service, 1921; Philippine Health Service, 1922).

6. CONCLUSION

Rabies has been a health problem of the American colonial government since its existence was proven in the Philippines by Whitmore and Dudley in 1910. With the formal declaration of the existence of rabies in the Philippines, the Philippine Health Service, and the Bureaus of Science and Agriculture classified rabies as one of the most dangerous human and animal disease. Rabies is not only a medical or veterinary problem because it is also an environmental issue in the Philippines. The main cause of rabies can be attributed to the presence of a large number of stray, unlicensed and dangerous dogs that roam the streets. Because of the failure of municipal councils to enforce ordinances that compel the muzzling of dogs, many stray and suspected rabid dogs remain unclaimed or unattended by its owners. Based from the available data provided by the Bureau of Science, there were 17,858 human cases of rabies recorded in the Philippines from 1914 to 1933 and majority of these cases were males (63.53%) The statistics also revealed that the most vulnerable group who died of rabies were mostly Filipino males (11 deaths) and children whose ages are below nine years old (6 deaths). These groups are the most vulnerable because they were usually outside of their houses working while the children usually play on the streets.

The control of rabies in the Philippines showed the interaction of human and veterinary medicine during the American period. It involves the implementation of policies that ensures the health and safety of both humans and animals from the carriers of the rabies virus. Thus, policies against rabies is a combination of measures that protected the health of humans through vaccination and the safety of dogs and the environment through animal inoculation, dog muzzling and canine poisoning. By analyzing the policies implemented by the American colonial government against rabies, it has been shown that the One Health concept was already utilized by colonial authorities as an approach against zoonotic diseases. Through the help of the different government agencies, colonial officials tried to enact medical, veterinary, and environmental policies that ensured public health and promoted the health and safety of dogs and the environment. Unfortunately, the anti-rabies campaign of the American colonial government was not successful in the Philippines because the public and local officials did not accept the policies and measures against rabies. These policies which include dog extermination, muzzling, and licensing of stray dogs and suspected rabid dogs were considered to be highly vicious, inhumane and unpopular by the public.

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