

Title: THE CRUX OF ENDEMIC RABIES IN INDIA

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Keywords

Abstract Human rabies has been endemic in India since time immemorial and the true incidence of the disease and nationwide epidemiological factors have never been studied. Human rabies continues to be endemic in India except for the islands of Andaman, Nicobar, and Lakshadweep. Dogs continue to be the principal reservoir. The disease is taking its toll on adult men and children, the majority from rural areas, due to lack of awareness about proper post-exposure immunization. The keys to success in the further reduction of rabies in India lies in elimination of stray dogs, improved coverage with modern rabies vaccines, canine rabies control, and intensifying public education about the disease

THE CRUX OF ENDEMIC RABIES IN INDIA

Anik K. Agarwal¹

SUMMARY

Human rabies has been endemic in India since time immemorial and the true incidence of the disease and nationwide epidemiological factors have never been studied. Human rabies continues to be endemic in India except for the islands of Andaman, Nicobar, and Lakshadweep. Dogs continue to be the principal reservoir. The disease is taking its toll on adult men and children, the majority from rural areas, due to lack of awareness about proper post-exposure immunization. The keys to success in the further reduction of rabies in India lies in elimination of stray dogs, improved coverage with modern rabies vaccines, canine rabies control, and intensifying public education about the disease

INTRODUCTION:

Rabies is caused by a virus that is transmitted to humans through the infected saliva of a range of animals. But most human deaths follow a bite by, or exposure to, an infected dog. Between 30% and 60% of the victims of dog bites are children under the age of 15 in countries where rabies is endemic. The WHO wants to eliminate rabies in Asia by 2029. But how, when India accounts for more than one third of the world's total rabies deaths?¹ An estimated 20,000 people die each year from rabies infections in India, accounting for 36% of worldwide rabies deaths. No other country has more annual rabies deaths.² The number of stray dogs worldwide has been estimated between 200 and 600 million. This situation is especially pronounced in India. The country is home to about 30 million stray dogs, which amounts to 1 stray dog per 42 people in the country.³ By some estimates, there are more stray dogs in India than in any other country. According to Bill Garrett, the Executive Director of the Atlanta Humane Society, there are at least 5 times more homeless animals than homeless people. 95% of rabies cases occur in Asia and Africa, and 99% of rabies transmissions to humans are caused by dogs. 'Immediately after the Great World war II,' countries like the U.K., Australia and New Zealand controlled and eradicated Canine Rabies by strict import control with mandatory six months' quarantine on dogs, cats and related species, eradication of all unwanted and stray dogs in the country and vaccination of all dogs above the ages of eight weeks with the new freeze dried vaccine, all under mandatory regulations. This was followed suit by S.E.Asian countries like Malaya, Sarawak, Brunai, Singapore as also Taiwan and Japan all of which became rabies free and remains so as per the FAO/WHO/OIE reports.⁵

Stray dogs catastrophe in India

India's stray dogs are not just a nuisance. They are a public health catastrophe the source of an uphill battle against rabies. Why are stray dogs so much more common in India? First, a common characteristic of India's cities encourages stray dog populations open garbage. Stray dogs are scavengers, so they rely on garbage on the street as a source of food. In countries where garbage is kept in bins and cleaned regularly, stray dogs cannot survive on the streets.

Second, India has fewer government and NGO services that deal with stray dogs. In many countries, the government spays and neuters stray dogs to slow population growth. Many other countries have organizations like Animal Control, the Humane Society, the SPCA, private shelters, and rescue organizations. All of these interventions require a lot of resources. For this reason, India has fewer large-scale interventions and organizations to deal with stray dogs. Solution of stray dogs catastrophe is more challenging in India because India's all-too-common solution for dealing with stray dogs was mass killings but however, a 1993 law prohibits this practice. India has attempted to address its stray dog problem for the last two centuries. In the 19th century, the British started killing stray dogs to control the population. This continued through Independence with up to 50,000 dogs killed each year. Despite the act Prevention of Cruelty to Animals Act 1960 government continued its mass killing of stray dogs., the government amended the Prevention of Cruelty to Animals Act with the Animal Birth Control Rules 2001. The Rules aimed to revise the government's stray dog program. Instead of killing stray dogs in India, the government would sterilize stray dogs, vaccinate them against rabies, then release the stray dogs back in their original territories. The Rules also made it illegal for municipal officials to

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kill stray dogs. However, this has not been effective. Many local governments have since carried out mass killings of stray dogs. In 2008, the Kashmir government poisoned stray dogs in an effort to eliminate 100,000 dogs. In 2009, Meerut (a village in Uttar Pradesh) also faced criticism over mass killings of stray dogs. People started multiple petitions against Meerut, and the killings stopped shortly after.⁶

In 2015, both the Kerala High Court and Bombay High Court passed orders to reduce the stray dog population by killing strays as humanely as possible. Both orders faced significant backlash. An international movement to boycott travel to Kerala gained momentum, and mass protests occurred in Mumbai. Both orders were overruled by higher courts. Also in 2015, Chandigarh Municipal Corporation wrote to the Union Minister for Women and Child Development to ask for an amendment to the Animal Birth Control Rules 2001. The letter explained that they wanted to be able to kill rabid or aggressive dogs for public safety. In November 2015, the Supreme Court asked all states and union territories to follow central rules, which ban killing stray dogs in India. The Court ruled that only “irretrievably ill or mortally wounded” stray dogs can be eliminated, which should happen in a “humane manner”. However, it is notably difficult to determine which dogs are “irretrievably ill”. The usual procedure to take sick dogs into custody and observe them for symptoms of rabies and other illnesses can be lengthy, expensive, and dangerous for the humans involved.

Dubious ways to deal with India's crux endemic rabies: In India, sterilizing dogs has not worked well so far because of the sheer number of dogs and lack of resources. Regardless of which model the government uses, a key part of their work will be changing the public's idea of stray dogs in India. Because of the number of dog attacks reported in the media, people often see strays as dangerous animals that should be killed. Changing this opinion is important for promoting the adoption of stray dogs and ensuring that people do not support mass killings. National campaigns by the government can help create this systemic change in the public's mindset. In India, culling dogs is not allowed on humanitarian grounds. Accordingly the 2001 Indian law does not explain how dogs should be humanely caught, housed, sterilized and released back onto the street. Experts say culling isn't very effective anyway, considering at least half of the patients with rabies were bitten by pet dogs. So the authorities turn to vaccinating not just the human population, but the dogs as well. If 70% of the dog population were vaccinated, that would be enough to contain the spread of the virus. According to the 2015 PLOS study⁷, by 2010 India had vaccinated just 15% of its dogs and these vaccinations are not

enough. The dogs must also be sterilized to make sure new animals potential reservoirs for the virus aren't introduced into the community. At the time of writing, India has no national or state-wide plans in effect to make this happen.

CONCLUSION:

Realizing that even at the dawn of 21st century thousands of people in India are dying from rabies, some of the medical professional bodies such as the Indian Academy of Pediatrics and the Association for the Prevention and Control of Rabies has taken action. They have collaborated to create awareness, develop strategies suitable to the Indian situation, popularize the use of intradermal vaccination, with a view to reduce the high cost of treatment and cooperate with the government to reduce the incidence of death from rabies, with the ultimate goal of eradicating rabies from the country.⁸

Rounding up and vaccinating that many dogs is not just a technical challenge, it is a test of community spirit, dedicated efforts and, ultimately, political will. Says Meslin: “The most important success factors are high-level political commitment, dedicated and knowledgeable national staff championing the project inside and outside the country and good community involvement.” Until fairly recently, this kind of commitment was lacking in India, where 20 000 of an estimated global annual 55 000 rabies deaths occur, three-quarters of them in rural areas. One of the reasons the disease has been neglected is because “deaths are scattered” and never amount to the kind of crisis that get the epidemics top billing.⁹

It is understood that it is not possible to destroy the vector stray dogs in a country like India because of the existing Animal Welfare Regulations. The one and the only way possible to get clear is to appeal to the Central Government to include only those animals in the schedule which are economically essential for the human beings like cattle, buffalo, goats, sheep, horses, donkeys and possibly poultry and EXCLUDE the non economic pet animals like Dogs and cats and this exclusion would facilitate easy vector control as at present with the ABC program would only make every one go round the merry go round.¹⁰

However, to the best of my knowledge and beliefs, Rabies being a zoonotic disease, cannot be controlled by immunizing and treating the human beings alone. Vector control is the number one requisite and in the Indian subcontinents, most of the Asian dogs mainly stray dogs are the main vectors. As far as my knowledge goes, all the countries which have eradicated Rabies so far had sufficient vector control programs in the form of mandatory regulations making keeping or harboring stray dogs a punishable offence with fine or

imprisonment or both and compulsory destruction of all stray dogs.

People may not realize the extent of the danger dog bite causes and the benefit of vaccination or else cannot afford it. The main vectors of transmission are street dogs, and these are responsible for over 95% of human rabies deaths. To truly eliminate rabies from India, animal health is key. **“Elimination of human rabies is dependent on the elimination of dog rabies,”** says the WHO in its strategic framework for eliminating the disease. Yet the extent of rabies infection in the country's animals remains a mystery.⁷ Despite all types' of developments, both animal and human rabies continue to be a significant public health problem. As rabies is not a notifiable disease, there is no organized system of surveillance of rabies cases, and hence reliable data are not available in India.¹¹

Dog bites were mainly responsible for these deaths and the majority of these were by stray dogs. The remaining few deaths were due to cats and wild animals such as jackals. Similarly, other studies have identified dogs as being the main animal responsible for human rabies deaths in India. Consequently, **the key to human rabies prevention and control in India lies in the successful control of canine rabies and the stray dog population.**

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